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ORIGINAL LECTURES.

ON THE GENERAL ETIOLOGY AND SYMPTOMS OF CHOREA.

BASED ON THE RECORDS OF 410 CASES AT THE INFIRMARY FOR NERVOUS DISEASES, PHILADELPHIA.

Two lectures delivered at the Infirmary during the Summer Session.

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LECTURE II.

SYMPTOMS.

FEW affections have more clearly defined features than chorea. The involuntary and irregular contractions of various muscle groups give objective characters recognizable at a glance.

On careful inquiry we find very constantly initial symptoms of some moment. The child displays an unwonted restlessness, is unable to concentrate attention, or to sit still, a condition well expressed by the term "fidgets" so often used by mothers in describing the onset of the disease. The mental state is correspondingly irritable, and the child may become emotional, crying on the slightest provocation, and often displaying groundless fears. Night terrors are noted in a number of cases. Very commonly the temper suffers, and from a docile, quiet child, the poor victim becomes cross and unmanageable. Punishments inflicted at this stage by thoughtless parents or teachers aggravate the mischief, or even precipitate the attack. The appetite may fail, and anæmia not infrequently develops. After a week or two, the onset of the disease is shown by a marked increase in the restlessness, and by the occurrence of sudden involuntary movements. These may be noticed first at the table when the child spills a tumbler of water by a sudden jerk, or upsets a plate. In this stage, too, there may be pains in the limbs, more frequently the legs, and in the joints. Persistent headache is a not uncommon symptom.

For convenience we may recognize three grades of cases: *mild*, in which the affection of the muscles is slight, the speech not seriously involved, and the general health not much disturbed. *Severe*, in which the movements are general, the power of speech is lost, and the patient is unable to get about or help himself; and the *chorea insaniens*,[1] or maniacal chorea, characterized by profound cerebral disturbance.

The following cases illustrate these forms:

Ida A., æt. seven, was admitted to hospital April 24th, with her third attack of chorea. Early in January, 1885, she had an attack of acute rheumatism; was in bed four weeks. Mother also has rheumatism. One month after convalescence the chorea began, and for several months she twitched, chiefly on the right side. January 29, 1886, she had a second attack, and she attended at the clinic for three months. At this time there was no rheumatism, and the heart sounds were clear. About the end of March of this year, her mother noticed that she was extremely nervous and irritable, and on the 30th she had irregular jerky movements of both hands and of the shoulders, with an occasional facial grimace. On April 20th she returned very much worse; the movements of arms constant, speech not affected. She was admitted to hospital, put to bed, ordered Fowler's solution, ♏ v t. i. d., galvanism to the spine, and massage of the limbs daily. To be kept quiet and undisturbed. There was no heart murmur. She improved rapidly, and at the end of a week the movements had almost ceased. On May 7th she was discharged well.

This mild, ordinary case represents the common type of the disease as we have it at our clinics. It is interesting to note the occurrence of rheumatism, the absence of any heart murmur, and the recurrence in the spring.

An illustration of severe chorea is the following case:

Ella A. (sister of preceding), æt. nine. Has not had rheumatism. Has been nervous at school. Failed in some lessons. Was frightened at a lecture at the Wagner Institute, and three months ago was much upset by seeing a child injured and bleeding. The twitching first noticed in right arm. When brought to clinic, December 30th, she presented the appearance of a rosy, plump child. The condition was as follows: Choreic movements are universal; the hands and feet jerk about in a most violent manner, the movements usually beginning in the left side, and extending to the right. They number thirty to thirty-two in a minute, and are so strong that the most powerful restraint fails to repress them entirely. The hands will be drawn from the lap violently upward, striking the chest, or they will rise suddenly and fall heavily on the knees. When she is seated on a chair the feet will be lifted from the floor and come down suddenly with a loud stamp. The face is in constant movement; speech is almost impossible, and she presents a truly pitiable condition. So violent are the movements that she has frequently injured and bruised herself, and has several times inadvertently struck her mother. She is intelligent, sleeps well, even soundly; the movements ceasing completely. It was impossible to examine the heart on account of the extreme jactitation. She took Fowler's solution up to ♏ xv t. i. d. with benefit; but the case was protracted, and, though the violent movements subsided, it was several months before they disappeared.

We have four or five of these extreme cases every year; often they are carried into the clinic in some instances covered with bruises on the exposed and prominent portions of the body.

[1] Bernt: Monographia Choreæ Sancti Viti, Prague, 1810. Gee: St. Bartholomew's Hospital Reports, 1886.

There does not appear from the records to have been a case of the extreme maniacal chorea, c. insaniens, under treatment at the hospital, so I here give the notes of a case which I saw with Dr. George Ross, in Montreal.

Emma M., a strong girl, æt. eighteen, was admitted to the General Hospital, October 17th. She was a waitress at a hotel, and when carrying a tray was badly frightened by two men who were fighting, and dropped her dishes. A severe reprimand only increased her fright. The next day she packed her trunk and went home, a distance of thirty miles, but met her father on the way, who insisted that she should return to Montreal. By this time her hands and arms were in constant motion. On the way back her father got drunk, and threatened to punish her if she did not keep quiet. Five days after the first fright she was admitted. Arms and legs were in constant motion, jerking about in all directions; the face also affected. She was rational, but could scarcely speak. On the night of the 19th she had no sleep; raved and talked all the time; movements incessant. On the 20th, 21st, and 22d, this condition persisted, or rather grew worse; the temperature ranged from 101° to 103°; the tongue was dry and cracked, and she became much exhausted. On the night of the 22d the temperature rose to 105°, and she died exhausted five days after admission, and ten days from the onset of the symptoms. The autopsy showed recent, soft, warty vegetations on the auricular surface of the mitral segments.

There are many points of interest in the *motor phenomena* of chorea which may be considered more in detail. Mitchell has pointed out in his lectures that there are differences in the character of the irregular movements; thus, in one group, comprising the greater number of cases, there are "awkwardness and incoordination of voluntary movement, followed soon or late by automatic or unwilled clonic spasms of various parts." In a second group the disease does not get beyond the stage of incoördination, and irregular movements only occur during willed actions. In a third group there are "constant, automatic, irregular, clonic spasms, usually of the hands, but during volitional acts these entirely vanish and the most complicated acts are well performed without obvious incoördination."

The various muscle groups are not equally affected in chorea, but there are usually special regions to which it is confined or from which, as starting-points, it spreads to other parts of the body. In a majority of the cases the hands are first involved, then the face, and subsequently the legs. The movements may be confined to one side, hemichorea, during the entire attack or for some weeks before the other side is invaded. It begins most often in the right side; thus, there were 126 cases in which the movements were at first dextral, starting usually in the hand, and only 80 instances in which the left side was first involved. The movements rarely start in the legs; in only 6 instances is it noted in the records. In about a dozen cases it is said to have been general from the first, but early symptoms are readily overlooked. In 126 cases the movements became general. The muscles of the trunk and face are, as a rule, bilaterally affected; we rarely see the one shoulder group involved without the other, and the facial grimaces are not often confined to one side.

In nearly one-fourth of the cases speech was affected. When slight this may be only an embarrassment or hesitancy and the child utters the words plainly. In other instances speech is an incoherent jumble, the tongue and lips move and sounds are uttered, but it is impossible to catch the words. Sometimes a few words are spluttered out in an explosive way. In very severe cases the child will make no attempt to speak. The inability is in articulation rather than phonation, the lips and tongue are more concerned than the intrinsic laryngeal muscles, or those of the expiratory group. In one case with marked spasm of the inspiratory muscles and involvement of the larynx, as shown by the whistling inspiration, the speech was not at all involved. In rare instances a difficulty in articulation is the first symptom noticed (Case 343).

In Case 202 there were marked sighing and sobbing due to choreic spasm of the inspiratory muscles. Case 181 had paroxysms of panting and hard expiration. In several instances odd sounds were noted; thus, in Case 86 there were sounds in the throat like a sob, which continued day and night. Case 101 had a "peculiar noise in the throat," and Case 183 made a grunting noise while eating.

As a rule, the movements cease during sleep. In three cases they are stated to have persisted. In one of these, a child of four years, the movements may have been the irregular twitching seen during sleep in nervous children. In Case 121 the movements are said to have been first observed in sleep. In Case 119 *b*, a severe attack, the statement of the persistence during sleep is very specific.

Muscular weakness is a prominent symptom of chorea, and may result in a condition of paresis or even paralysis. It may be hemiplegic, paraplegic, or more frequently monoplegic. Of 28 cases in which there was a *special note* of marked loss of power, the lesion was distributed as follows: legs, 6 cases; right hemiplegia, 4; left arm, 10; right arm, 6; arms and legs, 1; arms, 1. Very rarely does the loss of power reach the grade of complete paralysis, but the child may be unable to lift the arm to the head, a shoulder may droop, the grasp may be feeble or there is wrist drop. It is important to remember that there may be extreme paresis with slight incoördination and few spontaneous movements. To such cases Todd gave the name of paralytic chorea. The weakness of the arm is shown by the enfeebled grip, of the leg by a dragging or by a decided limp. In his original description Sydenham speaks of the "unsteady movement of one of the legs, which the patient *drags*." The paralytic symptoms may precede or come in the course of the attack, more rarely follow it. In Case 89, a girl, aged sixteen, with subacute rheumatism, had a sudden loss of power in right arm and leg, with loss of voice, but retention of consciousness. The attack lasted only half an hour and was followed by pain in the limbs and choreic movements. The case was under observation for two months and made a good recovery. In the majority of the cases the paresis came on during the attack, was slight, and passed away with the disappearance of the chorea. Occasionally a local paralysis or weakness remains, as in Case 229, a lad of ten, who had a severe general chorea in September, 1880, during which the

[1] Loc. cit., p. 198.

limbs were paralyzed. He recovered gradually but when he returned in September, 1883, in a second attack, there was talipes of the left foot the result of the paralysis in former attacks. In Case 21, a wrist-drop remained for two years, the result of a palsy which came on with chorea of right arm. Case 91 illustrates a difficulty in determining whether a patient has ordinary chorea or is the subject of post-paralytic spasms. Girl, aged five, when two years old had congestion of the brain followed by hemiplegia which disappeared in a few weeks. Since the attack there have been more or less general choreic movements, which at the age of five were slight, though distinct. With arsenic they disappeared in three months. The history suggests a post-paralytic case, but the complete recovery is unlike the usual sequence in this condition. Gowers[1] and Ollivier[2] have written fully on the subject of paralytic chorea, and our experience tallies very closely with theirs. It is not often of serious import and usually disappears.

Do the choreic spasms extend to the muscles of organic life? So far as our experience goes, the great gastro-intestinal muscle is never affected; certainly there are no symptoms which can be referred to irregular contractions of the coats of the stomach or bowel. Abdominal pain is not often a complaint; constipation, however, is not uncommon. The sphincter ani remains uninvolved. So, also, the bladder acts normally in the most extreme cases. There are a few instances of incontinence of urine, but not more than we might expect in the records of 400 children. Spasm of the bronchial muscles, inducing asthmatic attack, is not met with even in those cases in which the respiratory muscles are involved. By some writers the irregularity and rapidity of the heart's action, and the mitral systolic murmur have been regarded as due to disturbed rhythm in the ventricular contractions, and to choreic spasm of the papillary muscles; but this is a mere conjecture, and the symptoms are explicable in a more reasonable way.

Sensory troubles occupy a less important part in the history of chorea. Pain in the muscles or nerves of the affected limbs is not common. In children it is sometimes difficult to get an accurate idea of the seat of the pain. There are instances, usually of hemichorea, in which pain, without arthritic complication, is a very marked symptom. Mitchell has spoken of these cases as *painful* choreas. Numbness, tingling, and pricking sensations are mentioned five or six times in the records. Anæsthesia of the affected side, which has been noted by several writers, has not been observed. Tender points, on which the French writers have laid so much stress, have not been frequently observed. In the printed schedule of our chorea books there is a special question relating to this subject, and in the great majority of the cases it is followed by a negative statement. In a few instances there were sensitive regions over the cervical, dorsal, or lumbar spines. It is the experience at our clinics that these tender points, either dorsal or along the course of the nerves, are very uncommon. Marie[3] has compared them to the hysterogenic points in hysteria, and has also found ovarian tenderness in a number of cases, always on the same side as the chorea.

[1] Brit. Med. Journal, 1880. [2] Archives de Neurologie, 1884.
[3] Progrès Médical, 1886.

Headache is a frequent, and in some cases a persistent, symptom. It may precede the attack.

Psychical disturbance is rarely absent in chorea, though fortunately, in the majority of cases, slight in degree. On the moral side we have irritability of temper, often a strange perverseness, and emotional outbreaks. A frequent complaint of the mother is "that the character of the child is completely changed." The memory becomes enfeebled, and the aptitude for study is lost. This impairment of the intellect may be progressive, and terminate in positive dementia. Usually we can "read the mind's complexion in the face," and can see, as the case progresses, the clouds obscure a bright, clear countenance, leaving it dull, heavy, and expressionless. There may be hallucinations of sight or of hearing. The patient may do odd, meaningless acts. Thus, Case 150, a girl of twenty-one, with a second attack, would hide away her clothes, and, on one occasion, wandered off for two days alone. More serious still are the cases, usually young adults, with mania, the *chorea insaniens* of Bernt. A large proportion of the fatal cases come in this class. The delirium is of an active, noisy character, and there are instances on record in which the chorea has been overlooked, and the patients sent to an asylum. Usually, but not necessarily, the motor disturbance in these cases is of an aggravated character. So impressed have some observers been with the predominance of the psychical trouble in chorea that they have regarded the motor disorder as an epiphenomenon of secondary importance.

Epileptiform seizures may occur, and there are records of five cases with convulsive attacks, or periods of sudden unconsciousness. Case 110 had a severe convulsion during the course of the disease. In Case 410, the child, æt. nine, has had for five years epileptic attacks, not numerous, only three or four a year. She is now, May 4, 1887, in her second severe attack of chorea.

In Cases 202, 232, and 248, there were attacks of loss of consciousness, possibly epileptic. Gowers has called attention to the relation of chorea to convulsive seizures,[1] and has reported ten cases. The infirmary experience does not indicate a common association of the two affections.

A relationship with *hysteria* is much more frequent, and there are a dozen cases, all in girls from fourteen to twenty-seven years of age, which presented marked hysterical symptoms, while many others had minor manifestations. With one exception the movements in these cases were those of ordinary chorea, and the symptoms of hysteria were subsidiary. In case 239, a girl aged nineteen, was affected with "jerking spasms" in legs and arms, which came on suddenly. She had had hysterical spells, and had been troubled with constant eructations of gas. The movements of the arms and shoulders became very rhythmic, and the head was moved from side to side.

The condition of the *reflexes* has been studied by Sinkler in 50 cases,[2] with the following results; in 26, the knee-jerk was normal; in 15 it was diminished in degree; and in 9 it could not be obtained.

Trophic lesions are not common in chorea, unless we regard, as some would have us do, the joint troubles as arthropathies occurring in the course of a cerebro-spinal

[1] British Med. Journ., 1878. [2] Loc. cit., p. 448.

disease. Under this head, however, we may very properly consider the skin affections, of which the records mention 11 cases. In five of these the rash was erythematous or papular, and unquestionably due to arsenic. In Case 332, a boy of seven, there was a pigmentary change in the right cheek after a course of Fowler's solution for six weeks. It is highly probable that this was due to the arsenic. Similar cases are reported by Owen,[1] Cheadle,[2] and Stewart.[3] There were two cases of herpes zoster. In case 2, a girl of seven, the vesicles came out on the right side about three weeks after beginning to take arsenic. In Case 318, a girl of eleven, the herpes was on the left side in the lumbar region, and appeared about seven weeks after beginning the arsenic treatment.

Case 13, girl aged eighteen; no manifestations of rheumatism; had been taking arsenic for ten days when an eruption resembling erythema nodosum appeared, and remained for some days. In Case 312, girl aged eight, with pains in wrists at time of attacks, but no swelling. There were black and blue raised spots on the legs. They were not painful, and came out in crops. They did not disappear on pressure, and resembled a purpuric urticaria. Apparently the rash was not due to the arsenic, as in one attack, at least, it appeared before the administration. In Case 347, child æt. eight, had first attack of chorea in 1885; second attack in 1886, preceded by acute rheumatism; knees and ankles swollen, and there were large, swollen, purple blotches on the legs and arms.

In these last instances we have probably illustrations of forms of the purpuric rashes which not infrequently occur in children, associated, perhaps, with very slight rheumatic trouble. They resemble mild forms of the peliosis rheumatica of Shönlein.

No doubt a majority of the cases were caused by the arsenic so commonly used, but it is possible that cases of herpes and the multiform erythema may occur as neurotic manifestations of the disease itself. J. B. Roberts[4] has described a case of herpes, and Ollivier[5] has reported several cases of erythema.

Fever is a symptom rarely mentioned in our records. It occurs, 1st, when an acute rheumatism sets in; 2d, when, as occasionally happens, the endocarditis becomes severe; and 3d, in some cases of chorea insaniens. There may be the most intense and violent movements without any rise in temperature, and a great majority of all cases remain afebrile throughout. Possibly a more careful thermometric study of the disease might yield different results. In out-patient practice it is hard to secure full clinical records. H. A. Hare[6] has called attention to the fact that in mono-chorea the temperature of the affected side may be elevated.

The cardiac symptoms of the disease shall be separately considered and it need only be mentioned here that in 120 of the cases, or 29.2 per cent., there were heart murmurs during the attack.[7]

[1] Med. Chronicle, Manchester, 1886.
[2] Practitioner, 1886. [3] Canada Med. and Surg. Journ., 1886.
[4] Hospital Gazette. New York, vol. iii., 1878.
[5] Revue des Maladies de l'Enfance, 1884.
[6] Boston Med. and Surg. Journal, vol. cxii.
[7] Cardiac Relations of Chorea, American Journal of Medical Sciences, October, 1887.

The *duration* of an attack of chorea is extremely variable. From eight to ten weeks may be stated to be an average time for attacks of moderate severity. In mild cases, recovery may take place in two or three weeks. Not infrequently, however, cases drag on at the clinic for three or four months. The term *acute* chorea is applicable to those rare cases of extreme severity, with or without mania, which may terminate in a week or two. On the other hand, there are cases which drag on month after month and become truly chronic, lasting even for years. They are of sufficient interest to receive a separate consideration.

The liability to *recurrence* is an important fact in the history of chorea and has been carefully noted in the records. The 410 cases represent 683 separate attacks. In 240 cases there was a single attack; in 110, two; in 35, three; in 10, four; in 12, five; and in 3, six. Case 23 is a good illustration of recurrence. Mary R., aged eight, came to the clinic March 23, 1877. The attack had begun in the autumn of the previous year and had continued. She improved rapidly under treatment, and the movements ceased. Toward the end of June the symptoms returned, and this is noted as a second attack, though probably it was only a relapse. The third attack was in August, 1880. The fourth in the spring of 1881. The fifth in January, 1882, and in February, 1883, she returned with a sixth attack. There was no rheumatism and the heart was not affected.

The notes gave no clew to the conditions which render recurrence liable. Of the 60 cases in which there were three or more attacks, there was a history of rheumatism in 11, a proportion very much higher than in the cases with only one or two attacks. Mitchell has called attention to the vernal recurrence of chorea, and we have had many instances in which year after year, in March, April, or May, the patients would come back for treatment. Autumnal recurrence is certainly less common. It is the custom at our clinics to warn the patients of this tendency and to give instructions with a view to prevention, and even to order a course of arsenic in the early spring. Sydenham had observed this point, for he says that as "the disease is liable to return again, I think it well for the patient to be purged about the same time, or a little earlier, the following year."[1]

Certain cases of chorea display peculiarities sufficiently marked to warrant special consideration.

Chronic chorea.—There are seven cases in our records in which the symptoms persisted for a period of years.

CASE 47.—Martha K., æt. seventeen. For five years has had choreic movements—sudden, abrupt, and decided, sometimes in the face, sometimes in the extremities. Menstruation began at fifteen years of age. No heart murmur, but she was anæmic. The movements were a good deal under control. After attendance for two months without benefit she disappeared from observation.

CASE 91.—Lizzie, æt. five. When two years old had congestion of the brain followed by hemiplegia, which disappeared in a few weeks. From this time she has been more or less choreic. When seen August 8, 1879 the movements were general but slight; none in face. Under the use of liq. potass. arsenitis, ♏ iii t.i.d. she

[1] Loc. cit., p. 200.

improved, and on December 31, 1881, the movements had ceased and the child seemed quite well.

CASE 186.—Lizzie K., æt. twenty-one. No history of rheumatism. When thirteen years old had the first attack, which was general and affected the speech. After lasting, without intermission, for three years the movements ceased, and she returned December 1, 1882, with a second attack which had already lasted three months. There is no note of her return to clinic.

CASE 246, already referred to as of congenital origin. —Jennie W., æt. nineteen. Good family history. Mother was frightened by seeing a marked case of chorea some time before the child was born. Movements began at birth and have continued. When seen February 3, 1884, movements general; muscles of face, arms, and legs in constant motion, mouth motions particularly affected. Muscles were well developed. She could knit and dress herself. Has been going to school; learns easily, intelligence fair.

CASE 230.—Wilbur H., æt. twelve. No neurosis in family. As an infant, could not hold up the head or move the legs. At three or four months the choreic movements of the hands were noticed. When seen first, October 1, 1883, there were general, but slight, irregular movements. In May, 1887, the condition remained the same; there were slight jerky motions in extremities and head. Intelligence defective.

CASE 335.—Mary M., æt. twelve. Mother very nervous and uncle had "spasms." For three years has had movements in face, head, and arms; speech never involved. On September 21, 1885, when first seen, the head was chiefly involved. The jerky movements of the right hand occurred when at rest, not when in use. She was treated for some months without much improvement. On the 7th of May, 1887, she returned to the clinic. The chorea had gradually disappeared, and, although nervous, she seemed very well.

CASE 348.—Alfonso G., æt. twenty-one; baker. A sister had chorea, and died of heart disease in 1872. Was well until August, 1884, when he began to have jerking movements in head, arms, and legs. Speech somewhat affected. When first seen, June 1, 1885, there were spasmodic contractions of all the muscles of the face, neck, trunk, and arms; legs not affected. The inspiratory muscles were involved, and at times a high-pitched whistling inspiration occurred, as if the constrictors of the larynx were involved. He has been under observation and treatment for two years, and has somewhat improved. The movements of the arms have ceased, and the thoracic muscles are not much affected, but those of the head and neck are still involved. His general condition has remained excellent, and there has not been at any time mental disturbance.

The two congenital cases should go in a separate category, as possible instances of symptomatic chorea dependent upon widely diffused cerebral changes, but they illustrate clinically the most extreme form of chronic chorea.

In Case 91 the movements followed temporary hemiplegia, and might possibly be regarded as symptomatic; but as they were general and finally disappeared, it is not likely that they were the result of the lesion which induced the hemiplegia.

The other cases are peculiar only in the protracted course of the disease. It is encouraging to note the recovery, after three years' duration, in Cases 186 and 335.

Habit chorea.—This convenient term has been applied by Mitchell to certain local choreic movements, usually of the face, met with very frequently in children from the ages of seven to fourteen years. The orbicularis oculi, the corrugator supercilii, and the facial group are commonly affected, and the child repeats a series of grimaces. Occasionally it is limited to a single muscle. Motion of any sort aggravates the movement. In many instances it is at first nothing more than a trick which the child has caught, and can restrain, but constant repetition makes a habit which finally becomes uncontrollable and may persist throughout life. There may be movements of the shoulders and arms, and a case beginning as a local chorea may lapse into the pronounced general form. There are often associated movements of a curious character. Thus a lad with blepharospasm would, when walking, suddenly stop and put his feet together, or rotate the head. A lad at present in attendance has, in addition to slight facial chorea and a shrugging movement of the shoulders, the following curious trick: he will suddenly put the index-finger of the right hand between his teeth and bite it hard, while, at the same time, the pad of the second finger violently compresses the tip of the nose. The skin over the distal joint of the finger is raised in hard callosities, due to the constant biting; and the nose has become flattened. He is a sensible lad, and when asked why he does such a silly thing, answers, "I cannot help it—I feel I must," and in goes the finger as he speaks. Such habits have close affinities with the more infantile tricks of thumb-sucking, head-nodding, rocking, etc., and they are not without interest in connection with certain imperative conceptions of adult life.

Chorea of pregnancy.—In two cases of the 410, the attacks were in pregnant women.

CASE 277.—A woman, æt. twenty, who had had repeated attacks of chorea, applied at the clinic October 15, 1884. She was married early in May. Began to have movements of limbs August 15th. At time of visit, both sides were involved and there was decided affection of speech. She had morning sickness, the menses had stopped, the breasts were enlarging, the papillæ prominent, and she was believed to be pregnant. She attended at the clinic for four weeks, and improved very much. The mental condition was good.

CASE 236.—Mrs. B., æt. twenty-two, applied at the clinic November 16, 1883. Had an attack when nine years of age, and has been nervous ever since. Is pregnant. Attack began about September 15th, and has recently got worse. The right side chiefly involved; speech much affected; no mental symptoms. She remained under treatment for a few weeks, improved slightly, but did not return.

A third case was admitted to hospital in the spring of 1876. The notes have been mislaid, and I am indebted to Dr. Neff for the following memoranda. She was aged about thirty, a servant at the Colonnade Hotel. Had had chorea as a child. In the fourth or fifth month of pregnancy she accidentally broke a fifty-dollar demijohn of brandy and received a severe shock. Soon after, chorea developed and she was brought to the hospital. The attack was very severe, and after two

months she was transferred to the maternity department of the Philadelphia Hospital, where she died.

A fourth case is at present under treatment at Dr. Sinkler's clinic. Woman, æt. twenty-one, married three months. Menses have stopped, and she is believed to be pregnant. Nine years ago she had chorea —a most obstinate attack—which persisted for five years without intermission. She had a second attack, which lasted two months. The present one began shortly after her marriage, and is, possibly, not directly dependent upon pregnancy. It is, so far, not a serious attack.

The chorea of pregnancy is often severe, and the mental symptoms may be of the most aggravated kind; very many of the cases of chorea insaniens come in this category. Primiparæ are most frequently affected, and, as in the cases recorded above, previous chorea seems to play an important determining rôle. The mortality is high, ranging from twelve to thirty per cent. Two recent French monographs by Herve[1] and Gayard[2] have reviewed the entire subject, but not added materially to our knowledge of the conditions under which it occurs.

ORIGINAL ARTICLES.

THE RELATIONS OF CHRONIC PHARYNGITIS TO INTRANASAL AND AURAL INFLAMMATION.

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FOR years past it has been the habit of almost all systematic writers to divide chronic pharyngitis into several varieties: simple, follicular, granular, and atrophic pharyngeal inflammation being the usual divisions adopted. The causes of the disease given by various authors are almost innumerable: the strumous, gouty, and rheumatic diatheses, heredity, overuse of the voice, and the abuse of tobacco, are enumerated by Morell Mackenzie as the especial factors; frequent attacks of acute sore throat are considered by many writers to be a necessary cause of this disease. A few writers, notably Seiler and Bosworth, state that nasal catarrh and consequent mouth breathing are very important factors in the disease, but the almost universal tendency among laryngologists seems to be to consider inflammation of the pharynx as belonging to at least three separate diseases, each with its especial etiology and clinical history.

For some years I have taught at the Philadelphia Polyclinic and elsewhere that chronic pharyngitis, when not syphilitic, or tubercular, or perhaps gastric in character, is always dependent on intranasal disease, and have been in the habit of correctly fortelling the pharyngeal condition present by an examination of the anterior nares. I consider all the various "varieties" of chronic sore throat to be simply stages of one progressive inflammatory disease, which is in turn almost invariably dependent on the stage of intranasal inflammation present in the case. My experience has led me to believe that overuse or improper use of the voice or gastric disturbances are rarely if ever the sole cause of grave chronic inflammation of the pharynx; of course, the already existing disease may be aggravated by them, but if the nasal passages be normal the pharynx will almost invariably be found in a similar condition.

In cases of simple chronic rhinitis the pharynx will be found to be in a condition of chronic hyperæmia, with the mucous membrane and underlying tissues somewhat swollen and infiltrated; the swelling being due to the proliferation of small cells in the sub-epithelial tissues. A few varicose and dilated bloodvessels show prominently on the mucous-streaked surface, although in this variety hypersecretion is not marked. It is rarely that any discomfort is experienced by the patient at this stage; "morning sore throat" is occasionally complained of, and there may be a trifling cough. If the simple rhinitis progresses, developing into the first stage of true hypertrophic catarrh, a new set of pathological phenomena appear in the pharynx; a chronic *lymphadenitis* is set up, the lymph follicles become enlarged, hard, and markedly hyperæmic, and now on inspection the well-known conditions of "follicular pharyngitis" will be found. The mucous membrane presents much the same appearance as in the preceding form, but shows greater thickening, the vessels are more dilated and tortuous, and studding the posterior pharyngeal wall are seen numerous oval tumors of varying size, averaging half a centimetre in diameter, deep red in color, and each surrounded by an area of congestion. This condition may obtain for years without gross change, and I think, authors to the contrary, very rarely, at least in this climate, causing serious discomfort or any very prominent symptoms. Certainly the grave systemic disturbances which many writers have described as belonging to follicular sore throat must be exceedingly rare, since no disease is more common, and I have found the condition especially prevalent among physicians themselves, and the affection is frequently found among athletes and rowing men in the most robust health.

In patients in whom the nasal disease progresses through the second stage of hypertrophic rhinitis well-marked changes take place in the pharynx. The contents of the enlarged lymph follicles soften, break down, and are absorbed, or more rarely they burst, and a small superficial ulcer results. Changes also take place in the proper glandular structures, the epithelium multiplies, the glands becoming choked with epithelial elements, and subsequent atrophy follows. This stage of chronic pharyngitis is the form most commonly seen in Philadelphia; the appearances are a swollen and infiltrated condition of the mucous membrane as in earlier stages, but varied by areas of atrophy from the pressure of newly formed tissue. The surface is studded with the (often *cystic*) remnants of follicles, or by the scars or minute ulcers left by their softening. The bloodvessels are large, numerous, and tortuous. Symptoms consisting of cough, "morning sore throat," dryness, hoarseness, and general discomfort

[1] De la chorée pendant la Grossesse. Paris, 1884.

[2] Contributions a l'étude de la chorée des Femmes encientes. Paris, 1884.

in the pharyngeal region nearly always accompany this stage of the inflammatory process.

This *stage of breaking down* grows worse and worse as the nasal disease progresses into the third or sclerotic type of hypertrophic rhinitis. The subepithelial connective tissue becomes filled with small cells, which form a fibrillated structure, and the pressure exercised by this new growth induces atrophic changes, which occurring irregularly give a rough and nodular contour to the pharyngeal wall.

The succeeding well-defined form is the "nodular" or "granular" variety of pharyngitis—the posterior wall is *light colored and yellow* in appearance, and (from the destruction of follicles, the irregular atrophy of glands, and deposit of new connective-tissue) its surface is nodulated and granular. This stage gives yet more marked symptoms of impaired function and is usually progressive. Ultimately, as the result of very advanced nasal sclerotic changes or true atrophic nasal catarrh, we find complete destruction of all the glandular and follicular elements of the pharynx; the posterior wall consists of a simple membrane of new-formed fibrous tissue resting upon the bodies of the vertebræ, and the appearances of true *pharyngitis sicca* obtain; viz., extensive "absorption" or atrophy, the pharynx has a cup-shaped appearance, and its cavity is greatly enlarged, the pharyngeal wall is dry, puckered, red, and shining, and usually deeply congested from crust irritation. The symptoms of this stage of pharyngeal inflammation are usually marked and grave; the patient complains of hacking cough, of the accumulation of dry crusts within the pharynx, pain and discomfort, and the larynx will be found to show a deeply congested and often abraded mucous membrane on examination, and laryngeal cough is the rule.

Although occurring but rarely, there are occasional exceptions to the regular sequence of chronic pharyngitis to nasal catarrh; frequently recurring attacks of acute sore throat may spur on the pharyngitis so that it undergoes more rapid changes for the worse than the rhinitis present; and in dyspeptics the course of chronic sore throat is more rapid than in patients in whom the digestive tract is in a normal condition. Patients who work in a dust or chemical-laden atmosphere, and who are compelled by nasal lesions to breathe mostly through the mouth, show very rapid progressive pathological changes in the throat. The sequence, is, however, so well marked and reliable that but few errors need be made in diagnosing the stage of chronic pharyngitis present from an examination of the anterior nares.

Why the pharyngeal condition so closely follows the various stages of intranasal inflammation is not easy to determine; four causes are at work: extention of the inflammatory disease by continuity; irritation and septic influences from the flowing of abnormal nasal mucus over the pharyngeal tissues; mouth-breathing from nasal stenosis; and irritation from hawking, coughing, and forcibly blowing the nose to get rid of abnormal secretions. Their importance is in the order of their enumeration.

It is, of course, not intended here to deny that some or all of the many causes of chronic pharyngitis enumerated by authors may not have important etiological relations to the disease; a cause not often recognized is the use of various "hot" condiments and sauces, which cause a most marked pharyngeal hyperæmia in many individuals, with consequent infiltration of small cells. The use of undiluted alcohol is also a prominent causative factor in many cases. I have certainly seen fewer cases of chronic sore throat due to a vicious use of the voice, than to badly chosen treatment received for a trifling pharyngeal inflammation at the hands of physicians.

The remote results of advanced pharyngeal inflammation, associated as it is with grave intranasal lesions, are not infrequently of serious import. Nearly all cases of the atrophic type complain of "chest fretting," and a slight degree of chronic bronchitis is frequently found; great susceptibility to acute attacks of bronchitis and "winter cough," is the rule. Whatever be the relations of the same, it is also certain that a large proportion of patients with atrophied pharyngeal tissues are anæmic, dyspeptic, and generally below par. Great impairment of voice is an almost necessary result, and various local hysterical phenomena are very common.

Otologists usually consider inflammation of the lower pharynx as standing in an important etiological relation to chronic catarrhal deafness, and usually place considerable weight on the results of an examination of the lower pharynx in prognosis. While this is certainly the case, it is probable that could a grave chronic pharyngitis exist while the nares and the region of the pharyngeal tonsil remained fairly normal, no aural symptoms would obtain, inflammation of the lower pharynx tending neither to obstruct the orifices of the Eustachian tubes nor to extend to them by continuity. If great sclerosis has occurred in the lower pharynx, it is safe to argue that a similar condition exists in the lower portion of the Eustachian tubes, and, perhaps, even extending into the middle ear, but this is due to the inflammation of the pharyngeal vault, and not to the secondary disease of the lower throat. The upper pharynx belongs pathologically to the nasal region and is not under discussion here.

The *local treatment* of chronic pharyngitis, except in the earliest stages, is very unsatisfactory; applications made directly to the pharyngeal mucous membrane are nearly worthless, except to relieve symptoms, and possibly, if long continued to arrest the disease. Atrophied glands, degenerated lymph follicles, new-formed connective tissue, cannot be replaced by any treatment known or likely to be discovered. Treatment must be directed to the nasal cavities to be of avail; if the rhinitis be cured —so far as destruction of tissue permits—the pharyngitis will improve and the symptoms cease. Painting the pharynx with mineral and vegetable astringents, iodine, etc., if gently and thoroughly carried out, will often markedly relieve symptoms, and is still largely used at the Philadelphia Polyclinic. In the early stages of the disease a spray of potassium bromide (10 to 20 grains to the ounce) is of value; in more advanced cases I use applications

of tincture of sanguinaria or galanga properly diluted with glycerine; in yet more advanced stages *liqueur de Villate* diluted with water, or one or other of the thymol solutions suggested by me are most useful. Various other well-known solutions have been found valuable in selected cases; a 10 grain solution of crystal *hydrastin* has been used by us with benefit in "nodular" pharyngitis. In all cases better results will be obtained if the entire pharyngeal region be sprayed clean with some alkaline and antiseptic solution; formulas of which for use in private practice may be made very elegant and agreeable. The faradic current used two or three times a week, the positive pole being placed directly on the pharyngeal mucous membrane, and the negative over the larynx or angle of the jaw, is of the greatest value. It requires care and judgment in its manipulation, or quite as much harm as good may result.

Operative procedures have not proved satisfactory in my hands; the destruction of enlarged follicles by chemicals or electro-cautery only appears to hurry on the dreaded atrophic changes, except where individual follicles have undergone cystic changes, when their careful obliteration is expedient. Obliteration of varicose veins occasionally relieves symptoms, various local hysterical phenomena having been cured by some writers by this treatment. If properly done, it is safe and of value, although I have never seen cause to ascribe much symptomatic importance to the dilated vessels, regarding them as a necessary result of the general condition. When softened lymph follicles are found they may be incised and the resulting raw surface touched with ordinary tincture of iodine; less atrophy and scarring take place when so treated than if allowed to run their course undisturbed.

Internal treatment should be directed more to the nasal lesions than in hopes of directly affecting the pharynx. Strychnia and chloride of ammonium have proved the most useful drugs in my hands; the former is usually given in combination with phosphoric acid; various other medicines are doubtless of great use in selected cases. Outdoor exercise and "training" under a competent instructor are of enormous value in this, as in all diseases of the respiratory tract.

Although a *cure* of advanced chronic pharyngitis cannot be hoped for, by prolonged and well-directed treatment all symptoms may be relieved, the disease arrested, and if the patient is seen and treated from time to time no further trouble need be apprehended. In all cases the whole body must be interrogated for remote causes, violent pharyngeal symptoms being not seldom dependent on lesions of the digestive or genito-urinary tracts, a cure of which is imperative before the throat symptoms can be relieved. The well-known hygienic methods of "strengthening" the throat should never be forgotten or neglected after convalescence is established.

In treating any case of pharyngeal or laryngeal inflammation the positive causative relation of the nasal lesions must not be overlooked, and in direct relation to the success attained by intranasal therapeutics will be the improvement in the *chronic pharyngitis*.

49 N. SEVENTEENTH ST., PHILADELPHIA.

A NEW HEART TONIC, STROPHANTHINE.

BY THOMAS J. MAYS, M.D.,

PROFESSOR (ADJUNCT) OF DISEASES OF THE CHEST IN THE PHILADELPHIA POLYCLINIC.

STROPHANTHINE is obtained from the seeds of *Strophanthus hispidus*, which, according to "Just's *Botanic Annual*, is an exogenous creeper, belonging to the Apocyneæ, climbing the highest trees, and which is indigenous to the valley and mountain forests of equatorial Africa. The seeds are ground and formed into a paste by the natives of Africa, and this preparation they employ to poison their arrow-points. The poisonous property, which undoubtedly resides in the strophanthine, is very active, and is thus used for the purpose of procuring food, and as a means of defence against enemies.

The strophanthine which is manufactured by Merck, and which we employed, is a white crystalline powder which melts at about 365° F., and evaporates without leaving a residue. It has a feebly acid reaction, and is very soluble in water. Its general physiological action, as worked out by Dr. Fraser, of Edinburgh, is that of a muscle-poison, with a special affinity for the cardiac muscle. In small and appropriate doses it has a most decided beneficial action on the heart. It readily subdues an excited pulse, and does not seem to give rise to the cumulative effects, or to the digestive troubles which follow the administration of digitalis. Its action is principally confined to the heart, and even the bloodvessels are said to be uninfluenced by it. We have administered this agent in a number of cardiac affections, and, so far as our experience goes, believe it to be a very valuable therapeutic measure, as the history of the three following cases will demonstrate.

CASE I.—Mrs. A., aged seventeen, consulted us July 21, 1887, for a pain in the back, palpitation of the heart, and pain over cardiac area, and for this we prescribed quinia, iron, and ammonia. On the 3d of August she returned no better, dyspnœa, cardiac pain, and palpitation continued, pulse 120. Treatment: Strophanthine $\frac{1}{96}$th grain every three hours. 4th. Pulse 112. Same dose every two hours. 5th. Pulse 104. Much better. Same dose every hour and-a-half hours. 6th. Very much improved, $\frac{1}{48}$th of a grain every three hours. Dyspnœa gone and feels very well. Pulse 80. This was the first case in which we gave the drug, and it is very evident that we began with doses which were too minute.

CASE II.—*Subclavian aneurism.* J. B., aged forty, laborer. Was first seen July 19, 1887, when he complained of cough, expectoration, much dyspnœa and poor appetite, and frequent pains shooting down left arm, for about one year. Had chancre twelve years ago. *Physical signs:* Dulness on percussion below clavicle from sternum to shoulder-joint. Loud systolic bruit and a very perceptible thrill imparted to the finger over same region. Bruit propagated over the whole cardiac area and into the axilla but

not into the carotid, and its maximum intensity existed at junction of first left intercostal space with sternum. There was marked weakness of left radial pulse. Gave him four grains of iodide of potash every four hours. August 22d. No better. Trinitrine one drop of one per cent. solution three times a day. Sept. 4th. Cough, pain, and dyspnœa very much worse. $\frac{1}{75}$th of a grain of sulphate of atropia and two drops of tincture of aconite root every three hours. Sept. 6th. No better. $\frac{1}{64}$th of a grain of strophanthine every three hours. 8th. Better. Appetite improved, dyspnœa and pain less. 13th. Better. Same treatment. 16th. Very much better, same treatment.

CASE III.—*Aortic regurgitation.* W., aged thirty-five, married, first came under observation August 19, 1887, when she was suffering from cough, whitish, tough expectoration, dyspnœa so marked that she was unable to lie down. Had hæmoptysis nine months ago, œdema of lower extremities, and was losing flesh. Had rheumatism. Aortic diastolic murmur, mucous râles at bases of both lungs. Administered quinia, iron, and ammonia. August 22d. No better. Five drops of digitalis tincture every three hours. 24th. Somewhat better, but unable to lie down, $\frac{1}{64}$th grain of strophanthine every four hours. 15th. Much better. Dyspnœa improved and she is now able to lie down at night without difficulty. 26th. Still improving. Œdema in lower extremities has disappeared. Same treatment. Oct. 1st. With the exception of some rheumatic pain in her arm she feels comparatively well.

1809 SPRUCE STREET, Oct. 1, 1887.

AN APPARATUS FOR THE QUANTITATIVE ESTIMATION OF SUGAR IN THE URINE.

BY S. P. KRAMER, M.D.,
OF CINCINNATI.

THE fermentation test for sugar in the urine has long been considered the most certain and reliable test; it is the one to which recourse is had when others fail.

If, then, we could secure for the quantitative estimation of sugar an apparatus at once accurate, simple, reliable, and inexpensive, we would then have a saccharometer useful to, and attainable by any practitioner.

The apparatus devised by Dr. Max Einhorn,[1] consists of the fermentation tube described by Salkowski and Leube.[2] It consists of a bent-glass tube, the long arm of which is graduated, of about five cubic centimetres capacity. The short arm ends in a bulb, which acts as a reservoir to retain all the overflow. The test is made in the following manner: A gramme of fresh commercial compressed yeast is thoroughly shaken up with ten cubic centimetres of suspected urine. This is poured into the reservoir, and the long arm and bend of the tube are filled by inclining the apparatus and allowing the urine to flow in and displace the contained air, the pressure of the atmospheric air retaining the urine in the long arm. The apparatus is allowed to remain undisturbed at the ordinary temperature of the room (70° F.), for a period of twenty to twenty-four hours. The sugar, if there be any present, will then have fermented, having been converted into carbonic acid gas and alcohol. Part of the carbonic acid gas passes up into the graduated long arm, and part escapes into the outside air. Now, by a number of experiments, Dr. Einhorn has determined the volume of gas corresponding to a given percentage of sugar in the urine, and the tube is graduated by the results of these experiments. But with more than one per cent. of sugar the entire long arm of the tube is filled with gas, and all the urine is forced into the reservoir, giving off its carbon dioxide to the outside air; so that we cannot ascertain if the urine contain more than one per cent. of sugar. To obviate this, it is necessary to dilute the urine sufficiently to bring the amount of gas evolved within the capacity of the instrument. After the reaction has been completed the amount registered on the graduation is multiplied the same number of times as the urine was diluted.

While the apparatus is exceedingly simple, it admits of several sources of error.

In the first place, since the instrument is graded by the results of a number of experiments and not by an exact chemical calculation, the graduation itself must be in some degree deficient. Then under different degrees of temperature and pressure, the volume of gas in the tube and that given off, varies so that the error due to variations in temperature and pressure is multiplied; the amount of gas absorbed by the urine also varies under different conditions of temperature and pressure. Then there are the inconvenience and inaccuracy resulting from diluting the urine; and moreover, since nearly all diabetic urine contains more than one per cent. of sugar, the urine must be diluted in nearly all cases, and any error either in the graduation or volume of the gas is multiplied the same number of times as the urine was diluted.

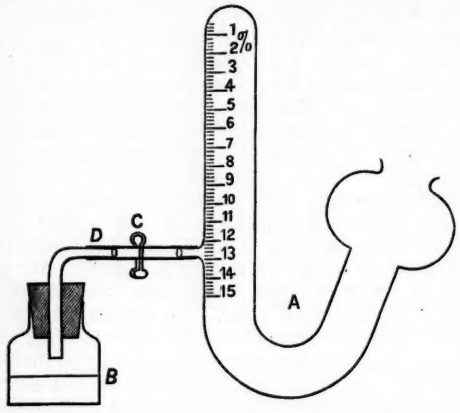
The following apparatus seems to answer all the requirements, both as to simplicity and accuracy. The aim has been to collect and measure all the gas evolved, while the instrument is graduated by exact chemical calculation.

The apparatus (see figure) consists of a bent tube "A," the long arm of which is graduated, while the short arm ends in a bulb. From the side of the long arm there is projecting a nipple. To this is attached air-tight, by means of rubber and glass tubing, the fermenting flask "B." Fitting over the rubber tubing is a brass clamp "C." The test is made in the following manner: To about 50 c.c. of water are added a little bicarbonate of soda and nitric acid. Effervescence takes place, carbonic acid gas being given off, and saturating the water with carbon dioxide. This is allowed to remain undisturbed until effervescence has ceased. The clamp "C" of the apparatus is then closed, and the flask "B" removed by separating the glass and rubber tubing at "D."

The long arm and bend of the tube "A" are filled with the water previously saturated with carbonic acid gas. This is done by pouring the water into

[1] Medical Record, p. 91, 1887.
[2] Salkowski and Leube, "Die Lehre vom Harn," p. 223.

the reservoir, inclining the tube, thus allowing the water to run in and displace the contained air.



In "B" are placed 1 c.c. of suspected urine, measured by a small pipette accompanying the instrument, and about half a gramme of commercial compressed yeast. These are thoroughly shaken together and the flask "B" again attached to the rubber tubing at "D."

The clamp "C" is opened, and the apparatus is allowed to remain undisturbed at the ordinary temperature of the room, for a period of twenty to twenty-four hours.

By this time the sugar, if the urine contain any, will have fermented. The carbonic acid gas passes up and is collected in the long arm of the tube, where the percentage of sugar may be read off on the graduation.

The instrument is graduated in the following way: From the equation: $2C_6H_{12}O_6 = 2C_2H_6O + 2CO_2$, we determine by means of their molecular weights, that one part by weight of glucose yields 0.4889 part by weight of carbon dioxide at 0°C and 760 mm. of atmospheric pressure. Then the number of cubic centimetres of carbon dioxide, obtained from 1 c.c. of urine containing one per cent. of sugar, equals $\frac{0.4889 + \frac{a}{100}}{B}$, in which "a" is the weight of 1 c.c. of urine, and "B" is the weight of 1 c.c. of carbonic acid gas at the given temperature and pressure.

The instrument is graded by the result of this calculation, so that it is mathematically correct.

Correction is made for the amount of carbon dioxide absorbed by the 1 c.c. of urine; also for the amount of carbonic acid gas produced by the yeast itself, independent of the sugar. Correction is also made for the amount of sugar not converted into alcohol and carbonic acid gas. The instrument is graded to 70° F., and slight variations from this will make a difference scarcely appreciable. The difference in pressure in the two arms of the tube is disregarded; since, in an instrument so small (8 inches) the error resulting therefrom would be so minute as to have no significance.

That the apparatus is simple and inexpensive, may be judged from the preceding; that it is accurate is shown by the record of thirteen experiments with a solution containing a known quantity of sugar, which yielded on the production of carbon dioxide an average error of 0.026 per cent., which is so minute as to have no clinical importance whatsoever.

A CASE OF ROUND-CELLED SARCOMA OF THE LARYNX.

BY LOUIS JURIST, M.D.,
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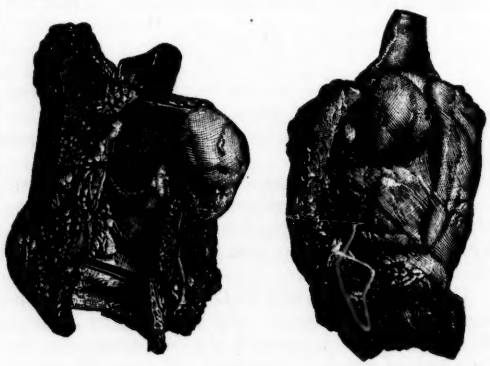
ON the 29th of August, 1884, Mr. E. D. T., white, aged sixty-five, was referred to me by Dr. Sibbald, of Wissahickon, to determine the cause of an attack of dyspnœa, which had come on the day previous.

On inquiry, Mr. T. stated that his shortness of breath, although of two months duration, had only become severe enough, on the day previous, to lead him to seek medical advice. There was moderate inspiratory and expiratory stridor. His voice, although perfectly clear, was hesitatingly formed and muffled. During the past two years, he had had occasional attacks of sore throat, for which domestic gargles had been employed. He complained of no pain, but food having had a tendency to go the "wrong way" during the past five or six weeks, he had largely restricted his diet—to which he attributed the loss of twenty pounds in weight. His family history was excellent, and he himself had never been seriously ill. No cervical glandular enlargement existed.



Laryngoscopic examination, made without difficulty, pictured a smooth, globular, non-ulcerated growth of grayish tint and dense consistence, about the size of a horse chestnut, springing from the left ventricular band. The amount of breathing space is fairly well shown in the woodcuts. The manipulation, he insisted, gave him great relief.

The danger of suffocation was carefully explained to his sons, and the proposition was made that he should at once enter the Jefferson Medical College Hospital, to have a preliminary tracheotomy performed; this was declined.

The following morning, while at another institution, I was hurriedly summoned to the hospital by a member of his family, who stated that his breathing was much worse, and begged me to operate at once. Shortly before we reached him, he fell unconscious, during a suffocative spasm, in the waiting-room of the hospital, and in spite of an immediate tracheotomy by one of the attending surgeons, Dr. J. W. Hearn, could not be resuscitated.

Only a partial post-mortem was permitted. The larynx and trachea removed. Microscopical examination showed the tumor to be a round-celled sarcoma.

The history, macroscopical appearances, the absence of ulceration, of glandular involvement, correspond entirely with the description of these growths in the latest work on the subject (Butlin, H. T., *Malignant Diseases of the Larynx*) and have an important bearing on the treatment. Keeping before us the inevitable termination of extensive mechanical obstruction of the larynx, from whatever cause arising, and subscribing to the statement that "the evidence at present seems to prove that sarcoma of the larynx neither affects the lymphatic glands, nor produces secondary growths, and that its malignant properties are limited to infiltration of adjoining parts;" laryngectomy, either partial or complete, is clearly indicated.

If, as Butlin claims, "even the worst cases of sarcoma are scarcely to be looked upon as hopeless," the issue in this case is the more deplorable.

To avoid confusion, it may be stated that this is the case referred to in the *International Encyclopedia of Surgery*, vol. v., p. 736.

839 NORTH BROAD ST.

GENERAL CONCLUSIONS, DERIVED FROM THE STUDY OF THE EYES OF ONE THOUSAND INSANE PATIENTS.

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THE conclusions expressed in the present paper are derived from the examination and study of more than a thousand cases of insanity, observed either in private practice, or at the Philadelphia and Norristown hospitals. This work has extended over a period of more than four years, and consisted of a thorough eye examination, the ophthalmoscope being employed by the direct method whenever possible, the eye being examined usually with and without dilatation of the pupil; vision for form was taken in all cases; in addition, the ear and pharynx were examined, as it was thought that these examinations might serve as a corroboration to those of the eye. The work was undertaken with the thought that if a sufficient number of patients were examined, it might serve to shed some light upon the pathology of insanity, and it was hoped that, even in a therapeutic aspect, it might prove not unprofitable.

Of course, in the short paper here presented, many points of minor importance evolved during the investigation are omitted, the effort being to indicate the general results obtained, only well-marked characteristics being here presented.

Vision for form, in all conditions of insanity, is practically normal, when we allow for refractive errors, opacities in the refracting media, and unhealthy conditions of the background. Of course, all things being equal, for instance, vision in dementia is not as good as in acute mania, because, as we shall find, in dementia we are dealing with a general degenerative condition, as expressed in the eye by more or less atrophy of the nerve, whereas, in acute mania we usually have present a condition of exaltation, represented by an increased blood-supply in the eye. Then, again, in imbecility, we do not expect to obtain the same vision as we would in other cases, as the want of education, and the frequent impossibility thereof, is a factor to be taken into consideration. In conclusion, we may say that vision for form in the insane is the same as in the mentally normal with similar eye conditions.

The visual fields are very often reduced in consequence of the optic nerve degeneration so frequently found in cases of insanity; this reduction of the field's area differs not in variety or extent from what we would expect to find in similar nerve degeneration in the sane.

The pupils are far more frequently unequal and irregular in outline than in the sane; they are, also, more frequently sluggish, the irides slowly responding; particularly is this the case with the light reflex, the accommodation reflex being more frequently normal. These pupillary variations are more frequent, both in severe acute attacks, as well as in very old chronic cases. In the former we have slowly responding pupils, inclined to dilatation, while in the latter class they are more often unequal and irregular in outline.

Insufficiency of the recti muscles was found to be more frequent in imbeciles and idiots than in the mentally sound, but in the other classes of insane patients this fact was not observed.

Corneal, scleral, lens, and vitreous troubles are met with in about their ordinary frequency.

Choroidal inflammations are very uncommon, except in cases of general paresis.

Choroidal congestion is more common than among the sane; it is often found in connection with retinal hyperæmia, but not unfrequently it is found alone.

In studying the condition of the optic nerve and retina, it will be found best to take up in a connected manner the various forms of insanity. In fact, after studying the eye-conditions among insane patients, one cannot help feeling that there is a very intimate relationship existing between the various forms of insanity; one is led to believe that the three divisions—melancholia, mania, and dementia—are but different stages or phases of the same condition.

We shall find it best to first give the results obtained in cases of acute melancholia, as undoubtedly this is the commencement stage of many, if not all, cases which are found under the classes of melancholia, mania, and dementia.

On examining the eyes of a case of acute melancholia, we find that the fundus almost invariably shows us a condition of retinal hyperæmia, or of congestion; if taken early enough, it is but hyper-

æmia: the vessels, both arteries and veins, are larger than normal; they are often tortuous, with slight increase in the size of the lymph channels; the general appearance of the retina is more red than usual, and the nerve is slightly pinkish. If the case goes on into one of acute mania, we have a more marked increase in the blood-supply, we have a condition of congestion; the vessels are larger, the retina becomes darker in color, while the macula lutea loses its brilliancy, inclining to become a dull red. If the case is sufficiently severe, this condition of things continues increasing in severity, and soon we have retinal effusion, with a decidedly pink nerve. If the case becomes better, the congestion lessens, the effusion gradually disappears, and as the case gets well, the eyes gradually assume their normal condition.

Not infrequently we have, early in a case of acute mania, a condition of atrophy presenting itself; or, again, a swelling of the nerve, with obliteration of its edges (a slight papillitis), resulting in atrophy. These cases are not inclined to recover; they are apt to go into a chronic condition, and are almost invariably incurable. It may be that in the case of acute mania the congestion and effusion remain, becoming no worse, nor yet better. If it continues, we have, sooner or later, an atrophy of the optic nerve resulting. Patients who have had one or more attacks of acute mania, almost invariably present a condition of nerve atrophy in addition to an increased blood-supply. A case of acute mania, becoming one of chronic mania, gradually shows more and more atrophy of the nerve, while the congestion gradually subsides, the effusion being absorbed, the vessels becoming less tortuous, and decreasing in calibre. As the case of chronic mania merges into dementia, we have still more marked atrophy, and now we begin to find that the blood-supply is not only not increased, but that it rapidly diminishes, until, at length, it is less than normal; frequently the vessels in long-standing cases of dementia are very few and very small. When the condition of chronic dementia is fully pronounced, we have a very decided atrophy of the nerve-structure, and a very marked diminution, both in the number and size of the retinal vessels.

There is a distinct and separate class of cases of acute mania which are classed as cases of delusional mania, in which there is almost invariably some heart defect, and we find only a slight degree of hyperæmia of the retina, or else we find the retina perfectly normal. These cases often last for a very long time, year after year the same mental condition is present, they show no progressive eye-change. They are not inclined to get well, nor to pass over into dementia, but die usually in their disturbed mental state, from heart disease.

If a case of acute melancholia is becoming better, we find a gradual diminution of the retinal hyperæmia or congestion, the fundus of the eye clears up, and when the patient has recovered, there is usually no vestige left in the eye. Cases of acute melancholia which are but very slowly progressive, in whom year in and year out there is but little change in the mental condition, show but little or no change in the retinal circulation. Usually there is present a hyperæmia which continues on the same plane. The case may continue year after year, and may go on into dementia later on, when we shall begin to notice the atrophic tendency; if, however, there is a tendency to recovery, we find the eye presenting a subsidence of its abnormal condition, the blood-supply is lessened, the vessels are smaller, and less tortuous.

There is, however, a series of cases of melancholia which from their onset are very mild in character, and remain so throughout, becoming well in a greater or less length of time. These cases very rarely have any eye-change; but, when present, it is of the nature of a very slight retinal hyperæmia, which clears up as the case recovers.

As before indicated, we have in general paresis the majority of the cases of choroidal inflammation. The greater number of cases examined, which have been classed as paralytics, were found to present some syphilitic lesion of the eye.

In imbecility and in idiocy we have bloodvessels whose calibre is greater than normal, the vessels being numerous and tortuous, and the blood-supply is invariably greater than the normal; in addition to this we usually have large optic disks, but they are not of normal color, and seem to present an increased amount of fibrous tissue, showing a poor nerve condition. The macula lutea is usually of a dull red color.

In epilepsy we have present the same conditions, with far less frequency of large optic disks, as in imbecility and idiocy, but it is not so invariable. In addition, we have in epilepsy a more decided tendency to nerve degeneration, and also have an increase in the size of the perivascular lymph channels, and, in many cases, we have retinal effusions occurring.

N. W. COR. SIXTH AND GREEN STREETS, PHILADELPHIA.

MEDICAL PROGRESS.

CONTAGION AND DISINFECTION.—At the recent meeting of the Society of Prussian medical officials, PETRI, of Berlin, urged that the successful practice of disinfection required a knowledge of the germ to be attacked, and the agency directed against it. As Koch has shown that anthrax is the most virulent of known germs, it may be used as a test. First of available disinfectants he placed carbolic acid in five per cent. solution; two per cent. solution is inert. Sublimate is too poisonous, too easily decomposed, but is useful in disinfecting the unbroken integument. In the schedule of disinfectants of the Berlin Disinfection Ordinance, February, 1887, it is omitted. Laplace has shown that the addition to both carbolic acid and corrosive sublimate solutions of one-half per cent. hydrochloric acid increases their efficacy; a two per cent. carbolic acid solution, with this addition, kills anthrax. In disinfection to destroy the cholera bacillus whitewashing walls with lime was especially recommended. Esmarch has also shown that spores can be removed from walls by rubbing them with stale bread, which should be burned at once.

KOCH, of Berlin, stated that his observations that five

per cent. solution of carbolic acid destroyed anthrax had been confirmed by others. Guttmann's experiments, to the contrary, are not explicit enough nor plainly described. Koch had studied anthrax especially because it was, when he began his work, the best known of infectious germs; he had, therefore, made it a test object, and the germs since discovered give every evidence of a feebler virulence than anthrax. Successful disinfection consists in combating each disease in the special manner required by its individual germ.

In the discussion which followed Schulz advised the addition of potassium soft soaps as an auxiliary means of disinfection to the substances now employed in the Berlin Ordinance.

Philipp, of Berlin, had used Guttmann and Merk's method of disinfection with spray of corrosive sublimate without injury to any one employed in the work.—*Deutsche medicinische Wochenschrift*, Sept. 29, 1887.

Wounds of the Palmar Arches.—Thiriar, of Brussels, summarizes his views in a recent lecture, as follows: The safest and best plan is to ligature in the wound, if possible; if not, above it. In recent cases it can usually be done in the wound. Where it is necessary to tie higher up, it is of no use to tie the ulnar and radial; and if the wound is not very recent, and there has been time for a considerable amount of collateral circulation to have developed, even the brachial must be tied above the profunda. It is necessary to remember that the axillary artery sometimes gives off two brachial branches as high as the axilla itself. M. Thiriar examined a large number of arms in the dead-house when he was in charge of the post-mortems, and found this anomaly present in twelve per cent. of the cases. However, he has always succeeded in arresting hemorrhage in wounds of the palmar arches, even when the tissues were suppurating, by a modification of Sir J. Simpson's plan of acupressure. He uses needles curved to a semicircle, and, passing them under the artery, brings the edges of the wound together, and occludes the vessel by the application of a twisted suture, which there is no need to draw very tightly. He summarizes his advice thus: 1. Direct ligature. If impossible, 2. Twisted suture and acupressure. If unsuccesful, 3. Ligature of humeral in the middle, if the collateral circulation has not had time to develop; above the profunda, if it has. 4. Employment of compression, direct or indirect, forced flexion, forcipressure, styptics, etc., only as temporary expedients.—*Lancet*, October 1, 1887.

Ethereal Tincture of Phosphorus in the Asphyxia of Pneumonia in Children.—Dr. Faria, of Brazil, is quoted by the *Revue Générale de Clinique et de Thérapeutique* of September 22, 1887, as prescribing an ethereal tincture of phosphorus in the asphyxia which occurs in the cases of children suffering from pneumonia. His prescription is as follows:

Aquæ cinnamom.	℥ 25.
Tinct. ethereal. phosphor.	gtt. 8.
Spirit. ætheris	℥ 5.

Sig. Half teaspoonful to spoonful hourly as needed.

The Conveyance of Tuberculous Infection by Expired Air.—Cadèac and Malet are quoted as follows by the *Wiener medizinische Presse* of September 18, 1887:

Their experiments consisted in allowing rabbits to inspire air expired by phthisical patients daily for several hours. Infection did not result. When, however, an irritating substance, like bromine vapor, had caused inflammation of the bronchial mucous membrane before the inhalations, infection resulted. Twelve rabbits and guinea-pigs were kept for two or three months in an atmosphere shared by nineteen tuberculous animals, but without any closer association; none of them was infected. If the non-tuberculous animals were brought into closer relations with the tuberculous, infection resulted. The air expired by tuberculous animals was condensed, and the water resulting was injected into animals. These experiments gave no positive result. The conclusion, however, was reached that secretions and excretions of the phthisical are infectious when they become dried, and, as dust, inspired or taken into the mouth by the common use of food and drinking utensils.

Brouardel on Typhoid Fever.—At the recent Hygienic Congress at Vienna, Brouardel read a paper on the causation of typhoid fever, whose summary is as follows:

He would now seek to show what science had done; and, as an illustration, he selected typhoid instead of cholera, for in the long run it was the most fatal of the two diseases. At Geneva the International Congress was still undecided. Some said that typhoid arose from the fermentation of organic matter; others that a specific germ alone sufficed, without any decomposition of organic matter. The Congress could not agree whether the fever was contagious or only spread by water or the absorption as food, of some other contaminated substance. In 1884 an effort was made to utilize the current of the Rhone as a motive power. A lock was constructed, and this caused some of the drinking water supply to flow backward toward the mouth of a sewer. Some months previously this sewer received the dejections from two or three isolated cases of typhoid fever. In a few days after the contamination of the water supply a serious epidemic broke out in Geneva, and there were no less than 500 cases. Last year at Clermont Ferrand and Mont Ferrand there were 300 cases of typhoid due to water contamination, while such places as Chamavière and Royat, though close by, escaped, their water being derived from a different source. In Paris, whenever the supply of the pure water from the Vannes or the Dhuys fell short, and the waters of the Seine, the Ourcq, or the Marne were used instead, the hospitals were filled with patients suffering from typhoid fever, precisely three weeks after such alteration in the character of the water supply. Studying the question from the bacteriological point of view, Dr. Brouardel showed that the multiplicity of microbes rendered this investigation very difficult. After five years it was found that a few drops of carbolic acid in a culture broth had the property of killing all these microbes with the exception of the special microbe of typhoid fever. This latter developed so slowly that it escaped the action of the acid. In the examination of the waters the same process was used: and now it was possible to say definitely that such or such a substance contained the real

germ of typhoid. At the same time he was not prepared to say that typhoid could never arise merely from foul air. In a family of nine, living on identically the same food, the son alone contracted typhoid fever. It was found that under his room window there was an open soil pipe. In another family precisely the same incident occurred, and this among his own patients, and quite recently. Nevertheless water was the more general cause of the disease. He concluded by urging that it was more easy to cover water than to protect open rivers or canals from contamination. Water ought to be brought to large towns in pipes or closed aqueducts. If we thus protected the health of the great centres, the rural districts would also largely benefit, as their epidemics were very often imported from towns.—*Lancet*, October 1, 1887.

INTRACRANIAL SARCOMA; REMOVAL; RECOVERY.—DURANTE, of Rome, reports the following case in the *Lancet* of October 1, 1887:

The course of the disease, the loss of memory and of the sense of smell, and the objective and subjective state of the patient led me to believe in the presence of a tumor within the cranium, the pressure of which affected the anterior lobe of the brain and paralyzed or destroyed the olfactory nerve. Moreover, the displacement of the globe of the eye led me to believe also that the tumor had penetrated the superior arch of the orbital cavity. Such being my diagnosis, I proposed to the patient an operation that would remove the offending object, explaining to her the gravity of the operation without reserve. She was brave, and she consented.

To reach the tumor it was necessary to make a large opening in the left frontal bone; so with an incision commencing from the inner angle of the left orbit upward nearly to the hair line as far as the temporal region, I raised all the soft tissue from the bone in a flap. The bone being exposed, with a sharp scalpel and hammer I removed a large portion of it, commencing at the superior orbital margin, inferiorly, and found that the internal parietes of the frontal sinus had been forced outwardly. The dura mater being now exposed, I examined it, and found that it had been perforated by the tumor just opposite the frontal eminence. With great care I now began to scoop out the tumor. As soon as a considerable portion of the tumor was removed, I detected that it did not adhere beyond the internal surface of the dura mater, and that therefore its enucleation was comparatively easy; and then removed it and carried with it all the adherent portions of the dura mater. The hemorrhage was slight and easily controlled by the hæmostatic, a tampon treated with sublimate. The tumor was lobular, of the size of an apple, and weighed seventy grammes (about two ounces). It occupied the anterior fossa at the base of the left cranium, extending to the right and upon the cribriform lamina, which it destroyed. Posteriorly it extended to the glenoid tubercles before the sella turcica. The left anterior cerebral lobe was greatly atrophied; the orbital arch was much depressed, but not perforated by the tumor as I had anticipated. Having stopped the bleeding completely, I now united the wound by first intention, leaving in the cavity occupied by the tumor a drainage-tube, which descended to the left nasal fossa through the opening made on the ethmoid by a prolongation of the neoplasm; then I closed the nasal cavity with an iodoform tampon. The operation lasted about an hour. The patient bore the chloroform very well, showing only the weakness following the use of an anæsthetic and attendant upon loss of blood. On the third day she had fairly recovered, and the wound was healing without suppuration. The drainage worked well, a large quantity of serum tinged with blood flowing through it. On the fourth day, however, the patient was overtaken by sudden prostration, was inclined to sleep, exceedingly disinclined to talk, and complained of mental confusion. I then discovered that the drain had stopped during the night, so I at once removed the tampon, replacing it, however, further down the nasal cavity. The effect was good; the serous fluid began to drip again. Not satisfied with this, I applied a gum-elastic "pump" to the external opening, and drew off about an ounce of liquid. The flow was thus reëstablished, and continued all the following day and night. On the renewal of the flow the alarming symptoms disappeared as if by magic. On the seventh day I removed the stitches and the drainage-tube, and on the fifteenth day the patient returned to her home, doing very well. She had lost that sensation of vacuity around her person which made her uncertain in her movements, but had not regained her memory or the sense of smell.

Three months after I presented my patient to the Chirurgical Society at its meeting in Perugia, in 1884. She was in a happy frame of mind, and willingly related her experience. She stated that now all her faculties and mental conditions were normal, and that she had even regained her sense of smell. This greatly surprised me, for I felt sure that I had destroyed the left olfactory in removing the tumor, which had destroyed the cribriform lamina of the ethmoid. Upon experimenting, however, with aromatic substances, we found that she could only smell with the right, and that the left was totally insensible, its olfactory having been destroyed either by the pressure of the tumor or by the operation itself. The part of the bone which had been removed was now partially reproduced, the cavity in the region of the operation had now disappeared, and the eye had regained almost entirely its normal position. The tumor, under the microscope, presented a multiform fibro-cellular structure of sarcoma.

It is now four years since that operation was performed, and my patient is in perfect health. My diagnosis and the operation, apparently so hazardous at the time, are therefore justified by the result. And, though such operations have generally failed, the success of mine should secure proper consideration at the hands of modern surgery.

A USEFUL APPLICATION FOR DIPHTHERIA.—SIMON applies the following, hourly through the day, with a camel's-hair pencil to the throat of a diphtheritic patient:

Acid. salicyl.	gr. 8.
Decoction of eucalyptus . . .	℥ 15.
Glycerine	℥ 7½.
Alcohol	℥ 3.

As the decoction of eucalyptus is not commonly used in America, the tincture or oil may be employed, in proportionate strength.—*Revue de Clinique et de Thérapeutique*, September 29, 1887.

The Protection of Water Supply.—Hueppe of Wiesbaden, advised the following measures, at the Congress of Hygiene, at Vienna:

1. Protection of springs by proper walls from surface water; they should be as far as possible removed from cesspools.

2. Inspection and proprietorship of sources of water supply by a central bureau.

3. Inspection of potable waters by this bureau, with the effort to procure water naturally filtered through proper soil, and from deep sources of origin.

4. The intelligent use of sand filtration. (Thiem's method was commended.)

5. Uninterrupted and vigorous use of proper "water works." Prevention, in every possible way, of water stagnation.—*Deutsche medicinische Wochenschrift*, September 22, 1887.

A Preparation for Burns on the Eyeball.—Mr. Flanagan, Pharmacist to the Massachusetts Eye and Ear Infirmary, recently compounded the following to meet the want of a surgeon in a case of burn of the eyeball:

Atropine (uncombined alkaloid)	.	0.10 part.
Cocaine " "	.	0.05 "
Oleic acid	.	1. "
Olive oil	.	9. "

The alkaloids are dissolved in the oleic acid by the use of a water bath, and the solution is then added to the olive oil, warmed. A preparation was tried in which chloroform was used in place of the oleic acid, but the mixture proved more irritating to the affected parts.—*Pharmaceutical Record*, September 20, 1887.

Cold Affusion in Lightning Stroke.—Dr. Hidalgo, of Mexico, brought before the Academy of Medicine of that city, at a recent meeting, the case of a man who was struck by lightning, and was at first thought to be dead, but who, after having had, at the suggestion of a passer-by, a large quantity of cold water thrown over him, began to show signs of vitality. He did not at first receive any medical treatment, so that the early history of the case had to be obtained from the relatives. After being brought home, water was still poured over him until he spoke for the first time, saying he was cold, and begging that this treatment might be stopped. He was then put to bed. During the night he did not sleep, but kept talking in a delirious manner, and complaining of pain, especially in the head. When asked what was the matter, he said at one time that he had something the matter with his chest, and at another that he had rheumatism all over, but he made no reference to the lightning.

Dr. Hidalgo saw him the next day, and found him in a semi-comatose state. The pulse was 75, full and compressible, the temperature normal, the respiration rather rapid. He was so deaf that he could only be made to open his eyes by shouting close to his ear. The pupils were contracted. He complained of pain all over, but especially in the head and arms. He had passed three badly smelling liquid stools during the night. He was neither hungry nor thirsty. The electric spark had entered the right parietal region, just behind the auricle. The scalp was burned over a surface of about four by five centimetres, and a spot of dried blood was seen on the upper part of the auricle. The right side of the neck was reddened as by a burn of the first degree; below this, as far as the umbilicus, the effects were equal to those of a burn of the second degree, of the width of about fifteen centimetres at most, but very irregular in its dimensions. The electric fluid had passed down the inner aspect of the right leg, producing a burn of the second degree. It had then passed down to the foot, where the burn was of the first degree, and the strip of skin affected much narrower than above. The hat, coat, and trousers were injured—as if torn—all along the course of the current, but they were not burnt in any part. The patient was treated with sedatives and some clysters, and in sixteen days was perfectly well.

Dr. Hidalgo supposes the pneumogastric was affected by the shock, which paralyzed the respiration, and subsequently the heart's action, similarly to the behavior of an overdose of chloroform. The indication, therefore, was to reëstablish the respiration, and this was admirably fulfilled by the cold affusion, which fortunately was administered quickly, before the paralysis of the heart had become absolute.—*Lancet*, October 1, 1887.

Stomatitis.—The following is the formula for a gargle, recommended by Monin in this affection:

Acid. boric.		
Acid. salicyl.	.	āā gr. 15.
Potass. chlorat.	.	ʒ 2.
Glycerin.	.	ʒ 12½.
Essent. myrrh.	.	gtt. 16.
Aquæ aurant. flor.	.	ʒ 9⅜.

Sig. Use as a gargle.—*L'Union Médicale*, September 24, 1887.

The Temperature of Food given to Invalids.—In the *Wiener Klinik* for September, 1887, Uffelmann, of Rostock, states the following conclusions of his observations upon the temperature of foods for the sick:

1. Cold food and drinks lessen body temperature; the lowered temperature is a genuine loss of heat.

2. The ingestion of cold substances lessens the irritability of the diseased stomach.

3. Cold substances ingested raise the tone of the stomach, increase intestinal peristalsis, promote the passage of stools, and, in dysentery, for example, cause an increase of pain.

4. Cold food and drink increase the liability to cough.

5. Warm foods raise bodily temperature slightly, and promote perspiration.

6. Hot foods and drink are more stimulating than cold.

7. When often given, hot foods lessen the tone of the digestive tract and the vessels of the abdomen.

The Comparative Value of Malt Extract and Beer.—Dr. Townsend, in the *Boston Medical and Surgical Journal* of October 13, 1887, summarizes his studies upon this question, as follows: The small amount of alcohol in the malt extract is due to the presence of the tincture of hops. A glass of beer and a tablespoonful of the malt are practically of the same nutritive value as far as the sugar is concerned, while the tablespoonful of malted wheat or Liebig's food contains one-third as much again of sugar; but the latter

two are superior to beer in nitrogenous substances, the malt containing more than three times as much, and the Liebig's food more than seven times as much; and they are also superior to beer in the inorganic salts, the malt having nearly four times as much, while the Liebig's food has nearly five times as much. Beer, of course, contains alcohol in addition. The superiority of the Liebig's food in nitrogenous substances and minerals makes it preferable to malt, if the diastatic power of the latter is to be disregarded, by taking it directly into the stomach.

By way of summary, it may be said that although malt by reason of its contained diastase is able to convert starch into sugar in a watery medium at the temperature of the body, it has no power over starch in the living stomach, owing to the presence of the gastric juice. Administered directly by the mouth, therefore, it is of use only on account of its contained nutriment, and is inferior in the amount of nitrogenous and inorganic principles to a food formed by the action of diastase on wheat—that is to say, to Liebig's food.

EPITHELIOMA OF THE EPIGLOTTIS; REMOVAL; RECOVERY.—DR. MYLES, clinical assistant to Sir Morell Mackenzie, describes the following case in the *New Orleans Medical and Surgical Journal* for October, 1887:

Mr. D., aged about fifty-four, consulted Dr. Mackenzie in the summer of 1886, suffering from a greatly relaxed uvula and general congestion of the throat. The larynx was perfectly healthy. Dr. Mackenzie amputated a portion of the uvula, and after a few weeks the throat became perfectly healthy.

In the middle of November, 1886, he began to suffer again and consulted his ordinary medical attendant. His attendant used a laryngoscope and found general congestion. In the spring of 1887, as he was still suffering with his throat and great dysphagia, he consulted several specialists, and a growth was discovered on the epiglottis. At the end of May Mr. D. returned to Dr. Mackenzie, who found the epiglottis invaded in every part, both surfaces and edges, by papillary formations. These growths did not merely project from the mucous membrane, but the epiglottis had entirely lost its contour, and appeared to have undergone papillomatous degeneration. A small piece of the epiglottis was removed, and microscopic examination failed to show any distinct cancerous element. The patient had become very much emaciated, and was decidedly weak; of course, the question arose whether constitutional debility was due to cancerous cachexia, or whether it resulted from diminished supply of food, caused from constant pain in swallowing.

Having seen many cases in which the epiglottis had been entirely destroyed without any inconvenience to the patient—after cicatrization had taken place—Dr. Mackenzie determined to remove the entire epiglottis. Accordingly, on June 22d, after making several applications of cocaine, Dr. Mackenzie operated with his epiglottome. This instrument resembles a tonsillotome.

The epiglottome is eight and one-fourth inches in length, the curved portion passing downward being about three and a half inches in length. Near the proximate end is a strong wooden handle, fixed at an angle of about sixty degrees to the horizontal portion. The instrument in other respects is exactly like Dr. Mackenzie's ordinary tonsillotome, and, as in that instrument, the cutting blade is pushed forward by the thumb being forced through a metal ring.

The patient being placed in the ordinary laryngoscopic position, Dr. Mackenzie, guided by the laryngeal mirror, placed the loop of the instrument over the epiglottis, then laying aside the laryngeal mirror he seized the tongue himself and pressed the instrument home. From experiments which Dr. Mackenzie had previously made with a blunt instrument he had found, that if he allowed the patient to hold his tongue himself the instrument always slipped off. In fact it is necessary for the operator to press the instrument very firmly against the base of the tongue, whilst at the same time the tongue itself, in order to get a sufficient resistance to effect clean section, is dragged forward by the left hand of the operator and securely held. No pain was felt in the operation, but cocaine was again liberally applied to the base of the wound, and an hour after the operation, when the bleeding, which was very trivial, had ceased, one-fourth grain of morphia was applied to the cut surface.

The patient passed a good night, and the next day was able to swallow solids easily. Liquids passed into the larynx and gave rise to coughing. After the third day the patient was able to swallow as well as he did before the operation.

Since that time the patient has steadily improved, and in the latter part of July was able to swallow without any difficulty.

SACCHARIN FOR DIABETES.—FISCHER, of Berlin, has devised pastilles after the following formula:

Saccharini	gr. 45.
Natrii carbon. sicci.	gr. 30.
Manniti	ʒ 12½.

For 100 pastilles.

One of these may be used to sweeten a cup of coffee, tea, or cocoa.—*Deutsche medizinische Wochenschrift*, September 29, 1887.

PARTURITION IN PRIMIPARÆ OLDER THAN THIRTY.—ECKHARDT has investigated 543 cases of births in primiparæ above thirty in Schröder's clinic, and concludes that parturition at this comparatively late period of life is caused by late coitus or disease of the woman or man. The rigidity of the tissues in these patients causes prolonged labors and wounds of the genitalia. Diseases and complications of pregnancy are more frequent with these patients than with other primiparæ. Placenta prævia; prolapse of the cord; contracted pelvis; breech presentation, face presentation, and twins are more frequent than in young primiparæ. The children of such women are smaller than those of younger women. Retained placenta and uterine atony are more frequent than in others. With women between thirty and forty male children predominate over female; with women over forty female children are in excess. It is comparatively rare to find children with hard, well ossified crania among old primiparæ.

Realizing the fallacy of laying too great stress on statistics, Eckhardt forms no theories on the results of his investigations.—*Centralblatt für Gynäkologie*, October 1, 1887.

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SATURDAY, OCTOBER 22, 1887.

THE OSTEOGENIC FACTORS IN THE DEVELOPMENT AND REPAIR OF BONE.

UNDER the above caption, DR. WILLIAM MACEWEN, of Glasgow, presents an interesting and important contribution, in the October number of the *Annals of Surgery*. There are but few persons who are entitled to speak with so great authority in regard to surgical affections of the bones, and any communication from him in regard to their pathology and surgery is sure to attract attention. In the present article the observations are physiological, and in a measure experimental, and have a most important practical significance. Of late years it has been the custom to seek the elucidation of obscure problems in medicine or surgery, by experimentation upon animals, but in the present case the observations are of a clinical nature, and the experiments have been performed upon men. Although the article is not yet finished, we feel justified by its importance in calling attention to it.

It has long been held that bones grow in length from the epiphyses, and in thickness from the periosteum, and that the destruction or removal of the periosteum results in a necrosis of the subjacent layers of bone. The periosteum was, therefore, considered to be the main factor in the reproduction of bone; indeed, certain experiments have shown that the periosteum may be transplanted into a remote locality, and result in the formation of a plate of bone. As an illustration of the fact that the periosteum is a bone-forming membrane, we have the numerous instances where the long bones have necrosed as the result of injury or inflammation, and the continuity of the shaft has been restored by means of an involucrum formed by the detached periosteum, but not infrequently no such result follows; and the work of Dr. Macewen is intended to elucidate the fact that the periosteum plays a much less important rôle in the development and repair of bone than is generally believed.

The article consists chiefly of certain propositions which are dogmatically stated, and the proof of which is subjoined in a series of clinical observations. These propositions begin with simple statements which will be accepted almost without comment, and gradually lead up to observations of a more complex character. Proposition A states that when the periosteum has been mechanically detached from an extensive area of an adult healthy bone, and replaced after the lapse of some hours, union between the bone and the periosteum can take place without sloughing or observable augmentation following. This proposition requires but little argumentation for its proof: such cases are not infrequent, and the most important requisites are cleanliness, asepticism, and accurate apposition.

Proposition B deals with inflammatory separation of the periosteum, and states that after the withdrawal of inflammatory products, reunion between the periosteum and bone may take place without necrosis ensuing; showing that the temporary separation of the periosteum from the bone, even as a pathological result, is not necessarily attended by death of the bone.

Proposition C holds that the periosteum covering a portion of bone may be completely destroyed or permanently removed, yet the denuded bone may not only retain its vitality, but may throw out cells which will cover it, and form a new periosteum. It is substantiated by a number of observations of the most convincing character.

Proposition D goes still further, and maintains that a portion of bone which has its continuity severed on all sides, and at the same time has had all its periosteum removed, is capable of living and growing. This is a very important observation, since it has a direct bearing upon fractures with comminution. The fragments should be kept disinfected, and reimplanted, and frequently a good result is obtained; in this way a cure is possible, of severe fractures, trephining operations, etc. The fragments should be quite small, from a quarter to an inch in diameter.

Proposition E goes still further, and is the most interesting conclusion of the article as far as it is yet published. It is that not only do detached portions of bone, deprived of the periosteum, live when reimplanted in their original position, but such portions are capable of living after transplantation. Parts of deeper layers of bone which had no periosteal connection have been transplanted, and have lived and grown. The proof of this statement is found

in a case of necrosis of the humerus, in which no regeneration of the bone occurred, the arm remaining perfectly helpless and useless. A space of two inches separated the two portions, and this was overcome by bone grafts from a cuneiform osteotomy, with the result of filling in the hiatus, and restoring the arm to a marked degree of usefulness. In this particular case the periosteum had been preserved, but without the production of a new bone, and the grafting was undertaken after the lapse of fifteen months, the patient having returned to have the limb amputated.

If it be possible to effect an artificial union by means of the insertion of bone grafts, and so overcome gaps in the bones, the art of conservative surgery has made a notable advance. How great a loss of substance may be repaired in this manner, and whether the grafts may be taken from animals, are points not touched upon in this article, but full of interest. There are certain affections which require that portions of the bones shall be removed, and it is to be hoped that at some future time a means will be found for remedying the defects which have been made. The recent removal of a portion of the inferior maxilla has served to impress these reflections upon us. Will it ever be possible, in such cases, to transplant a corresponding piece from another person or an animal, and in this way restore the continuity of the jaw-bone? or could a new bone be formed by the implantation of small bone grafts? In the light of Macewen's experiments this result may not be beyond the realms of expectation.

THE DYSPNŒA OF ASTHMA AND ITS TREATMENT.

THE causation of the asthmatic paroxysm is still in dispute, and at least three theories have advocates, more or less zealous. The demonstration of the bronchial muscle gave a firm anatomical basis to the view that the attack was due to its spasmodic contraction. Wintrich and Bamberger hold that such a condition is inconceivable with the enlarged and hyper-resonant state of the lungs during the paroxysm, and they support a theory of tonic spasm of the diaphragm, either alone, or with the other muscles of respiration. A third view, that of Traube and Weber, attributes the attack to swelling and hyperæmia of the bronchial mucosa—through vasomotor agency—similar to that which occurs in the nasal mucous membrane in the early stage of catarrh. At present a majority of the observers are divided in opinion between the theory of spasm and that of hyperæmia with tumefaction.

In *The American Journal of the Medical Sciences* for October, 1887, FRASER, of Edinburgh, relates some interesting observations which support the spasm theory, and have a very practical bearing on the treatment of the attack. It occurred to him to study the auscultatory phenomena during the asthmatic paroxysm in order to ascertain if they could be modified by the action of any agent known to control the contractility of unstriped muscle. Now, it is well known that the most constant and striking physical signs accompany asthma, viz., the dry whistling râles (without any moist sounds) produced in the tubes, either by spasm of the muscle or swelling of the mucosa. If it could be shown that the administration of a remedy known to relax unstriped muscle was followed by a disappearance of the râles and relief of the dyspnœa, a strong point would be made in favor of the spasm theory. This Fraser has done, using the nitrites, whose capabilities of relaxing non-striped muscle in the case of arteries is well known. Eight observations are recorded in which either nitrite of amyl, nitrite of ethyl, nitrite of sodium, or nitroglycerine was given, and the chest carefully auscultated before and after every administration. In each instance, improvement more or less positive followed, and the dyspnœa and sounds disappeared simultaneously. From the well-recognized action of these bodies in reducing the contractility of non-striped muscle, it seems reasonable to attribute the relief to the relaxation of the spasm of the bronchial muscles.

The nitrite of amyl was given in solution, five minims in two drachms of water, or inhaled, ten minims on blotting paper at the bottom of a small glass tumbler. The nitrite of ethyl (nitrous ether) acts well in ten minim doses of a twenty-five per cent. alcoholic solution. Of the nitrite of sodium ten minims of a ten per cent. solution, and of the nitroglycerine five minims of a one per cent. solution were employed. The administration of nitrite of amyl in the asthma paroxysm has long been practised, but the accurate determination of the coincidence of the relief of the symptoms with the disappearance of the physical signs has not before been so closely followed. We believe a combination of the nitrite of amyl, given during the paroxysm, and the nitrite of sodium given continuously, will act more surely than either remedy alone, as the latter gives that permanence which we miss in the action of the nitrite of amyl.

SIR MORELL MACKENZIE, in an interview in the beginning of the week with a press reporter, reaffirmed the accuracy of his cablegram of last week to THE MEDICAL NEWS. He said that the Crown Prince's condition was excellent, and that there was nothing to justify the alarming rumors current with reference to his health.

THE fifteenth annual meeting of the American Public Health Association will be held at Memphis on November 8th, 9th, 10th, and 11th. The Executive Committee has selected the following important

topics for discussion: I. The pollution of water supplies; II. The disposal of refuse matters of cities; III. The disposal of refuse matters of villages, summer resorts, and isolated tenements; IV. Animal diseases dangerous to man. The President, Dr. George M. Sternberg, will make an address upon recent work in bacteriology, in connection with private and public hygiene. The Committee on Disinfectants will present a report embodying the researches and experimental work of the committee during the year.

In addition, there will be presented a number of papers upon other important topics, and the meeting gives promise of being of the highest interest.

It is understood that the railroad rates from all parts of the country will be one and one-third fare for the round trip, upon the certificate plan; that is, those attending will pay full fare going and one-third fare returning. A certificate must be obtained from the Chairman of the Local Committee of Arrangements, Dr. G. B. Thornton, of Memphis, Tennessee, which must be filled out by the ticket agent when the ticket for Memphis is purchased. This certificate is necessary to secure the reduced return rates.

AT a recent meeting of the council of the College of Physicians and Surgeons of the Province of Quebec it was resolved to recommend the Legislature to pass a law requiring every one, no matter what his qualifications, to pass an examination before the College in all branches of medical study, before being allowed to practise. They also made large additions to the already very stringent preliminary examination in general education.

THE *Journal of Morphology*, edited by C. O. WHITMAN, Director of the Lake Laboratory, Milwaukee, Wisconsin, is announced. It will be devoted to zoölogy, and the first number contains contributions from the leading zoölogists of America.

AT the annual meeting of the Montreal Medico-Chirurgical Society, held on October 14th, the following officers were elected for the ensuing year:

President—Dr. James Perrigo.

Vice-Presidents—Dr. Wm. Gardner and Dr. James Guerin.

Secretary—Dr. R. F. Ruttan.

Treasurer—Dr. J. A. McDonald.

Librarian—Dr. T. D. Reed.

DR. JOHN B. CHAPIN, Medical Superintendent of the Pennsylvania Hospital for the Insane, has just been elected an honorary member of the Medico-Psychological Association of Great Britain and Ireland.

DR. W. T. COUNCILMAN, of Johns Hopkins University, will read a paper before the Philadelphia Pathological Society, on October 27th, on "Further Investigations on the Malarial Germ of Laveran."

BARON BERNHARD VON LANGENBECK, the "Nestor of German Surgeons," died of cerebral apoplexy at Wiesbaden on September 30, 1887, aged seventy-seven. He studied at Göttingen under his uncle, a famous anatomist and surgeon. In 1848 he was appointed Professor of Surgery at the University of Berlin, and Director of Surgery. He accompanied the German armies in the wars of 1864, 1866, and 1870, he was chief surgeon on the staff of the Emperor during the Franco-German war, and he was called to attend the Emperor after the assault of Nobiling. He was the instructor of the leading German surgeons of the present day. His contributions to medical literature date from 1836, when he wrote upon the anatomy of the retina. His best known works are those upon resections for gunshot wounds of the joints; and his name is also familiar in connection with the *Archiv für klinische Chirurgie*, which he edited ever since its establishment in 1860.

Mainly through his example conservative surgery obtained a sure footing in military practice. He was a bold and dexterous operator, and his remarkable results in the excision of joints are well known.

He was for many years President of the Congress of German Surgeons, and was only permitted to retire last year on account of his health and at his own earnest solicitation; he suffered from cataract, but was successfully operated upon last spring by Pagenstecher. His last appearance in public was at the Congress of Naturalists and Physicians at Wiesbaden, when, on September 19th, he opened the proceedings of the Section for Surgery with a few remarks. In his death German surgery loses her most distinguished exponent of his generation.

DR. HENRY HOWARD, one of the oldest members of the profession in Montreal, has recently passed away. He received his medical education in Dublin, and was a pupil of the celebrated oculist Dr. Jacobs. Dr. Howard came to this country in 1840, and was soon actively engaged in the practice of his profession as an oculist. His leanings, however, were always toward psychological science, and when an insane asylum was established at St. John, P. Q., Dr. Howard was appointed medical superintendent, and on the removal of the institution to Montreal and its great enlargement, he was appointed chief medical officer. Dr. Howard contributed many papers to the various journals on neurological and psychological science, and was a very prominent member of the Montreal Medico-Chirurgical Society, of which he was at one time President. He was a great

favorite with the profession, and was especially popular with the younger men, with whom he loved to discuss all of the more recent advancements in medical sciences. His opinions on crime and insanity were, perhaps, peculiar and somewhat in advance of his time, but he believed in them thoroughly, and was certain that in the near future, as methods of investigation became more accurate, they would receive confirmation. He liked to be called a "Physiological Psychologist." What was once said of Prof. Sharpey, might also be said of Dr. Howard—"He had not a single enemy" (in the profession), "and he numbered among his friends all those who had the advantage of being in his society."

REVIEWS.

RECENT WORKS ON NURSING.

THE NURSING AND CARE OF THE NERVOUS AND THE INSANE. By CHARLES K. MILLS, M.D., Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic, etc. 12mo. pp. 147. Philadelphia: J. B. Lippincott Co., 1887.

MATERNITY, INFANCY, AND CHILDHOOD. By JOHN M. KEATING, M.D., Visiting Obstetrician and Lecturer on Diseases of Women and Children, Philadelphia Hospital, etc. 12mo. pp. 221. Philadelphia: J. B. Lippincott Co., 1887.

OUTLINES FOR THE MANAGEMENT OF DIET. By EDWARD TUNIS BRUEN, M.D., Assistant Professor of Physical Diagnosis, University of Pennsylvania, etc. 12mo. pp. 138. Philadelphia: J. B. Lippincott Co., 1887.

THESE three volumes are the substance of lectures delivered by their authors to nurses, and belong, in reality, to the literature of nursing.

It is an encouraging fact that within a short time nursing has advanced to be a recognized branch of medicine, with several centres where training schools are educating nurses, and by whose instructors books like those in question are produced. These books are eminently fitted for those to whom they are addressed; non-professional attendants may profit by them, and the physician may find convenient knowledge at hand in them with which to refresh his memory for needed details.

Dr. Mills's volume enters a field but little cultivated. There exists no American book commonly known devoted to this subject; and the need of properly educated attendants for the nervous and insane has long been urgently realized. He gives useful points in the recognition of the common disturbances of the nervous system which are so often puzzling, even to a physician. His lucid and discriminating description of massage is greatly needed, in view of the abundance of poorly educated persons practising this mode of treatment. The applications of electricity which it is proper for a nurse to make are clearly described, and the apparatus in common use.

The care of the insane, as practised in the best asylums and the private practice of the author, is treated of in the concluding portion of the book. As supplying a want long felt, and as applying to the treatment of an especially difficult class of patients principles of training which have proved successful in other fields, Dr. Mills's book is valuable and welcome.

Dr. Keating's book is addressed to mothers quite as much as to nurses. It includes maternity and the care of the child until puberty in its scope; and treats fully of the many and varied details which comprise the existence of the young human being. The style of the book is popular, entertaining, and impressive; the treatment advised rational, and the book bears evidence of large experience and careful observation. The author's conservatism is exemplified in his advice to treat all cases of membranous croup as if diphtheria, and certainly nothing but good can come to the mildest case of croup if his instructions be carried out, while, if diphtheria be certainly present, much good will be accomplished before the disease has become established in its full severity.

To those called upon to meet the many and perplexing cares of the custody of children, Dr. Keating's book will be an efficient and happily explicit guide.

In his book upon Diet, Dr. Bruen has fortunately escaped writing a cook-book on the one hand, and a primer of physiology on the other. The author has succeeded, not only in subordinating science to the practical, but in applying science, and in a manner which will enlist the attention of all who read his book. The physiology of digestion and the liquids and solids required by the human organism, are treated of with discrimination, in the light of the recognized facts regarding digestion and assimilation. Infant feeding is carefully considered, and also the amount of food adapted to organisms of various types. The increase and diminution of flesh, and the diet adapted for the diseases most dependent upon a chronic vice of nutrition are described in a clear and interesting manner, the book forming a genuine addition to the numerous literature of nutrition.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting October 12, 1887.

DR. WILLIAM T. BULL read a paper on

GASTROTOMY FOR THE DIGITAL EXPLORATION OF THE ŒSOPHAGUS AND REMOVAL OF A FOREIGN BODY; RECOVERY.

The introduction of the finger into the pyloric orifice of the stomach for the exploration and dilatation of that orifice when constricted, has been successful in the hands of Loreta, who first attempted it, through a small incision in the stomach.

The cardiac orifice, and the stomach above it, have also been found to be accessible to instruments after a gastric fistula had been established; and dilating instruments have been introduced in that way from below upward in the course of treatment of stricture. But in

only one instance thus far recorded, has the effort been made to explore the œsophagus through the stomach. That was in a successful case, reported by Richardson, of Boston. In a man, who had a plate with false teeth impacted in the lower end of the œsophagus for ten months, he opened the stomach by a small incision, and attempted to reach the body in the œsophagus with the finger. This being unsuccessful, he enlarged the incision (to five inches) so as to admit the hand and forearm. The plate was detached by introducing the finger into the œsophagus, and drawing it first into and then out of, the stomach. A prompt recovery followed the operation.

The feasibility of this procedure was afterward demonstrated by Dr. Richardson[1] in a series of measurements and experiments on the cadaver. In twelve subjects he found that the distance from the centre of an incision, starting from the outer edge of the rectus muscle, and running five inches parallel to the costal cartilages, and one inch below them, to the œsophagal opening in the diaphragm, to be 7.55 inches. When the stomach was drawn as far as possible out of the abdominal wound, the hand and forearm were inserted into its cavity through an incision five inches in length, and the index and middle fingers could be passed two and one-half inches into the œsophagus. He found the distance from the teeth to the œsophagal opening in the average subject to be fifteen inches, and concluded that a body whose position when arrested in the œsophagus was not less than thirteen inches, could be reached from below by the hand introduced as described. Cheever's statement, that through the wound of œsophagotomy the finger could reach as low as the level of the arch of the aorta, was confirmed; and in four cadavera he was able, by passing one index finger through an œsophagotomy-wound downward, and the other upward from the stomach, to bring the two fingers into contact. Fortified by these observations, and the success of the case referred to, he urges with propriety the resort to gastrotomy for bodies impacted at a distance of no less than thirteen inches from the teeth, after other means have failed.

These valuable observations of Richardson's were fresh in my mind, when a boy presented himself, with a peach-stone impacted in his œsophagus, thirteen inches from the teeth. During forty-eight hours I made two efforts to dislodge it with instruments introduced through the mouth. I discarded œsophagotomy; the situation of the body, allowing six or seven inches for the distance from the teeth to the œsophagotomy wound, would leave as many inches of œsophagus through which to manipulate. One could accomplish no more than through the mouth. Deciding on gastrotomy, I considered the best method of performing this with the least injury to the parts, and was led to these reflections:

1. That large incisions in the abdominal wall and stomach, together with the manipulation of that organ outside of the abdominal cavity, and the introduction of the hand into it, ought to be avoided, if possible. They would be very dangerous in so young a subject.

2. That the exploration could be effected by the finger alone, introduced through a small wound, if the anterior wall of the stomach were invaginated, so as to fold itself about and behind the finger entering the œsophagus.

3. That the nearness of the œsophageal opening in the diaphragm to the vertebral column would make that structure an easy guide to the orifice, and, moreover, an incision in the median line would be nearer to that orifice than one parallel to the border of the ribs. This incision was in general preferable, and the hand or finger, manipulating through it, would be less encumbered by the overhanging ribs.

4. That the nature of the body (it being smooth and free from sharp corners) made it probable that it would be safe to push it up from below, or to draw it up, in case it was not easily dislodged downward into the stomach.

Case.—L. C., a colored boy, four years of age, and in good general health, was admitted to the New York Hospital, August 25, 1887. His mother stated that he had swallowed a peach-stone on August 20th, five days before his admission. On drinking immediately afterward the water was regurgitated, and from that moment he had been unable to retain any nourishment. He had lost much flesh, was weak, and complained of thirst and occasional nausea, but vomited only when he attempted to swallow. He had no pain. A physician had passed a probang, but could not reach the stomach. The bowels had moved once in five days, and the urine had been passed as usual.

I saw the boy immediately after his admission, and was struck by his anxious expression and feeble appearance. Though of spare habit, he was decidedly emaciated. He had no fever, and his pulse was a little more rapid than usual, and of small volume. He was given a glass of water, swallowed it, and immediately rejected it. No swelling of the neck could be seen or felt. An œsophageal bougie with an ivory bulb at the end was passed to a distance of thirteen inches from the incisor teeth, where it struck against a hard body. The sound made by a light impact could not be distinctly heard, but the sensation communicated to the finger was unmistakable. The examination was well borne by the patient, and I tried at once to dislodge the body with coin-catchers of different sizes. These only grazed its surface. Attempts to get beyond it with fine gum-elastic and whalebone bougies were equally unsuccessful; and after ten minutes' gentle manipulation the boy was put to bed. I ordered rectal enemata every six hours, containing three ounces of peptonized milk and an ounce of whiskey, and bits of ice by the mouth.

August 26. The rectal injections are well borne, and are continued. The manipulations of yesterday were repeated for fifteen minutes, but without result. An attempt to grasp the body with œsophageal forceps failed. I thought it dangerous to make further efforts, and advised gastrotomy, to which the parents consented.

29th. The operation was done with the assistance of the house-staff, and in the presence of Prof. Wm. H. Carmalt, of New Haven, and several other surgeons. It was just one week after the body had been impacted. After the ether-narcosis was complete, I passed an œsophageal bougie with an ivory-bulb tip and ascertained that the body was still in place, thirteen inches from the teeth. One or two gentle taps were made upon it with the bulb, in the hope that, with the relaxation caused by the ether, it might drop into the stomach.

[1] Boston Med. and Surg. Journal, December 16, 1886.

This, and a further cautious attempt to get beyond it with the coin-catcher and a slender bougie, were unsuccessful.

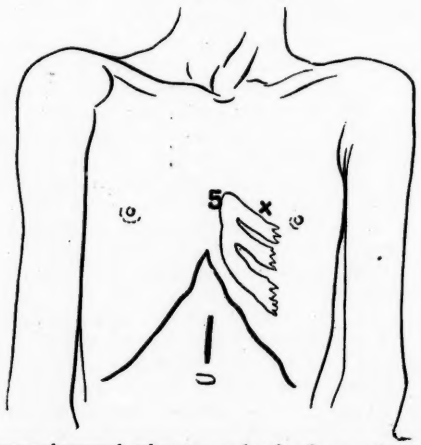
The abdominal cavity was opened by an incision three inches in length, extending from the level of the ninth costal cartilage to a point two inches above the umbilicus. The upper limit was determined by noting the point where the percussion dulness of the liver disappeared. This exposed a part of the anterior wall of the stomach and its greater curvature, about two and one-half inches from the pylorus, while the lower edge of the left lobe of the liver was seen in the upper angle. The index-finger, passed over the under surface of the diaphragm, could feel the motions of the heart, but detected no foreign body at the situation of the œsophageal opening. The stomach was empty. The pylorus was identified, and a part of the anterior wall was selected for incision; this was distant about three inches from the pylorus and midway from the greater and lesser curvatures, as estimated by the fact that the superficial vessels were least conspicuous there. I drew this part out of the abdominal wound and put two loops of silk through it, two inches apart in a vertical line, and made an incision one and a quarter inches long between them. This permitted the escape of a little gas and a few drops of brownish fluid. I fixed two more loops of silk into the edge of this wound, in order to control it thoroughly, and protecting the edges of the abdominal incision with flat sponges, passed my index-finger directly backward till the vertebral column was felt, then upward till it entered the œsophagus.

The finger stopped up the wound so that nothing could escape had there been fluid present, and this encouraged me to depress the abdominal wall and to crowd the finger as far up as possible. In this manipulation the anterior wall, with the loops of silk, followed the finger into the cavity and was folded on itself like the invaginated scrotum in examination of the inguinal canal. The body could not be felt till a bougie was passed and pressed greatly upon it from above. Then one of its flattened surfaces rested against the tip of the finger with a "collar" of mucous membrane below it. I made an effort to tip it with the finger-nail, so that its edge would present downward. I immediately passed along the finger a curved œsophageal forceps till it reached the body, and then drew out, by means of the loops of silk, the anterior wall, the finger following it, and still blocking the opening. One or two efforts to grasp the stone with this and a straight forceps, introduced in the same way, although it could be plainly felt with the tip of the blades, were unsuccesssful.

Reintroducing the finger, a slender bougie was passed over it and projected from the mouth, a sponge, one-half inch in diameter and one and a half inches long, was tied to the lower extremity with strong silk, one end of which was left long. The sponge was pulled through, meeting with slight resistance, but the foreign body, while apparently dislodged, was not brought up. A larger sponge was then tied to the long end of the silk and was drawn through. This brought the stone into the mouth, where the finger met and extracted it. In these manipulations the anterior wall was held by the loops of silk two inches above the abdominal wall, while the loops in its edges, manipulated by my assistants, Dr. Lines and Dr. Adams, of the house staff, were useful in securing easy access to the interior of the stomach. A few drops of turbid brownish fluid escaped from time to time, but were absorbed by two sponges held on either side of the stomach wound. No blood was seen in the mucus surrounding the stone or the sponge, and I concluded that no injury had been done to the œsophageal mucous membrane. The gastric mucous membrane was sutured with eight catgut sutures, the peritoneal coat with ten or twelve Lembert sutures of fine carbolized silk. The punctures above and below the incision, occupied by the loops of silk, were each closed with a single Lembert suture, for I was in doubt whether they extended through all the coats or not. The abdominal incision was closed with a continuous peritoneal suture of catgut, and interrupted silk sutures through the other layers. The duration of the operation was one hour and a quarter, and at its close the general condition of the patient was satisfactory.

The dressing was of bichloride gauze, covered with absorbent cotton and a roller bandage. The boy made a rapid recovery without accident. The temperature was never above 99°, and there was no pain, nausea, or vomiting. He was quite weak, with a pulse of 110 to 120, of small volume on the third, fourth, and fifth days, but gained rapidly after the seventh day, when he was allowed to eat anything that he wished. The rectal enemata were discontinued on the fifth day.

FIG. 1.



From a photograph taken two weeks after the operation. The site of the incision in the median line is shown, and the situation of the impacted stone, indicated by ×, at the level of fifth rib.

For the first twenty-four hours he received nothing by the mouth, during the second day brandy and water, and beef-tea at frequent intervals, on the third day ice cream and milk and tea, then soft boiled eggs and toast. His appetite was quite poor and he had no desire for food till watermelon was offered to him in addition to his other diet, on the fifth day. The wound healed entirely by primary union without any pus and there was no decided tenderness in its vicinity. He sat up on the tenth day, and walked alone freely as well as ever, a week later.

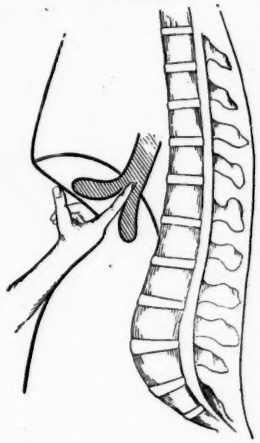
I submit the patient for your inspection, and have traced one or two lines on his dark skin to show the relative situation of the foreign body (opposite the level

of the upper border of the fifth rib), and of the incision in the *linea alba* (Fig. 1).

At the time of operation the abdominal wall, in consequence of his week's starvation, was thinner and softer than now, and could be more easily depressed, so as to lessen the distance in a straight line from the abdominal incision to the œsophageal opening at the cardiac orifice. This condition, and the moderate proportions of the boy, permitted the finger to enter that orifice and to reach the body, *without introducing the hand into the cavity of the abdomen. In fact, at no time was more than one finger within the abdomen.*

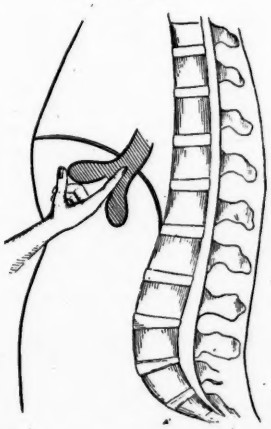
A diagram, Fig. 2, indicates clearly the nature of the manipulation. The loops of silk by which the anterior

FIG. 2.



wall of the stomach was drawn out of the cavity, and which held the edge of the stomach-wound, closely plugged by the finger, which followed, are not shown.

FIG. 3.



In the adult it would doubtless be necessary to introduce the hand into the abdominal cavity, in order to carry before the finger, or invaginate the anterior wall of the stomach. This proceeding is made clear by Fig. 3. I likewise present the peach-stone, and the sponge attached to the string which was drawn through the œsophagus. The stone is of average size, has a circumference of two and five-eighths inches, measures one inch in its long, and five-eighth of an inch in its short diameter, and is sharp only at one end.

In connection with this case, the following features seem to be worthy of attention:

1. The small wound in the stomach—one and a quarter inches—just sufficient to admit the index finger.

2. The invagination of the anterior wall of the stomach.

3. The use of the loops of thread, entrusted to assistants, by traction on which the edges of the wound in the stomach were kept close against the finger, so that it acted as a plug, and prevented the escape of any fluid.

4. The moderate manipulation of the stomach itself. At no time was it drawn more than two inches beyond the abdominal wall. This was at the time instruments were introduced; as soon as they reached the cavity, the wall, with finger and instruments, was at once thrust upward, and the œsophageal opening was reached by following the vertebræ and the middle line as a guide. The instrument being passed almost directly from the wound to the œsophagus did not wander about over the surface of the gastric mucous membrane.

Each of these features is in itself, a small "point," but they form, when combined, an important part of that sure and delicate technique which is essential to success in operations on the abdominal viscera. Furthermore, I think that the plan of not making any prolonged effort to draw the stone into the stomach was of great advantage. Aside from the fact that much time would have been spent, one would have directed one's efforts against the stone lodged in the part of the canal where it had rested for seven days, and where the mucous membrane might have been inflamed, softened, and ulcerated, and, therefore, easily perforated. In drawing it from below upward, one had the advantage of the larger calibre, and a sound mucous membrane, which neither the smooth body nor the soft sponge was likely to injure.

I have always regarded Dr. Richardson's contribution as an invaluable addition to our store of knowledge, and I hope that this Society may be of the opinion that in following his example I have helped to demonstrate that in gastrotomy we have an additional resource in the management of foreign bodies in the œsophagus. The comparative safety of the operation may be judged from tables of cases of gastrotomy for foreign bodies in the stomach recently reported by Bernays[1] and Richardson.[2] In twelve instances bodies have been removed from the stomach, which was uninjured and not adherent, and in two cases (including my own) from the œsophagus. All but two cases were successful.

These figures are more favorable than the statistics of œsophagotomy reported to the Society, last year, by Dr. Markoe;[3] these show 82 cases, of which 63 recovered and 19 died. The marked difference in the death-rate suggests to my mind the advisability, in cases where one is in doubt as to his ability to extract the body safely by œsophagotomy, of resorting promptly

[1] THE MEDICAL NEWS, January, 1887.

[2] Boston Medical and Surgical Journal, December 16, 1886, page 573.

[3] THE MEDICAL NEWS, May 1, 1886.

to opening the stomach. Such a doubt may arise from the difficulty in estimating the exact situation, from ignorance of the nature of the body, or from the circumstance that no instrument can be passed beyond it. It is certainly dangerous to use forceps which open in the œsophagus, when bodies completely occlude its lumen, and those which are flat and lie crosswise can only be caught by specially contrived instruments, or withdrawn by getting such an angular instrument as the coin-catcher beyond them. Pressure from below with a large bougie, or traction toward the mouth, would disengage any sort of body.

As a general rule, one can deal with all bodies impacted within the reach of the finger, manipulating in the œsophagotomy wound, that is six inches from the cricoid cartilage, according to Dr. Richardson, by the operation in the neck. Beyond this point gastrotomy would be necessary, and would probably be safe and efficient.

DR. STIMSON asked Dr. Bull if he had been able to determine why the body lodged just where it did.

DR. BULL replied that the position of the body was determined by the presence of a concentric projection, or collar, of mucous membrane, which was situated about an inch and a half above the pyloric orifice; the body lodged just above this constriction.

DR. WEIR asked if the narrowest part of the œsophagus was not usually situated higher.

DR. BULL said that it was, but that if a foreign body succeeded in passing the point opposite to the arch of the aorta it was usually arrested at the position described in his case.

DR. WEIR believed that the calibre of the œsophagus was larger than was generally represented, especially by French writers. He had passed bougies having a diameter of 21, 22, and, in one instance, 23 millimetres.

DR. STIMSON thought that, while the method employed by the reader had been in the highest degree judicious and successful, it seemed possible that it might sometimes be found as difficult to push the foreign body upward as to push it downward—that is, under circumstances in which the impaction was due to the shape, rather than to the bulk of the body, to its length and angularity, rather than to its breadth. In the present case the stone could not be forced downward through the lower part of the œsophagus, although the finger, which was as thick as the stone, could be passed upward to it. It was conceivable that, in pushing a large body upward, its upper end might diverge from the axis of the canal and catch in the mucous membrane in such a way that any effort to dislodge it from below, by pressure on its lower end, would only make its fixation more firm. In withdrawal by an instrument, which grasped the anterior end of the body, this difficulty was less likely to be encountered, although, of course, the use of the forceps had dangers of its own. Experience might show that this difficulty would retrench the generalization of the method so successfully employed by Dr. Bull.

DR. SANDS thought that the dangers incurred by applying instruments from above were greater than the advantage gained.

DR. WYETH thought the mechanism of the sponge in the case reported was nearly perfect; by thoroughly distending the œsophagus it served to obliterate any projecting folds of mucous membrane. The pressure upward would naturally dislodge the large, smooth end of the peach-stone first, and thus facilitate the extraction.

DR. MARKOE said that every surgeon who had had experience in searching for foreign bodies in the œsophagus had found that little could be accomplished. He had noted this especially after œsophagotomy. He could readily conceive how Dr. Bull failed to grasp the body with forceps. He might have feared to open them sufficiently wide through a dread of tearing the mucous membrane.

DR. BULL thought that most foreign bodies of irregular shape, such as plates with teeth, could be removed from above by means of an instrument, such as a coin-catcher. There was some danger in these manipulations, but it might be offset to some extent by care and delicacy of touch on the part of the surgeon. A sharp body could not be safely pushed upward from below, while the removal of a smooth body from above by means of forceps was always more or less risky. He had about a year previously perforated the œsophagus while endeavoring to extract a horse-chestnut with forceps. If we accepted the belief that a small wound in the abdominal wall, and also in the stomach, could be made with a minimum of risk, why should we not perform gastrotomy at once? There was absolutely no reaction after the operation in the case reported.

DR. WEIR referred to a case reported in a foreign journal, in which a patient had swallowed fragments of wood and glass with suicidal intent. Gastrotomy was performed and the foreign bodies were removed. The patient subsequently repeated the act, and gastrotomy was performed a second time with success.

DR. BULL asked Dr. Markoe regarding the feasibility of introducing the finger through an œsophagotomy wound as far down as the arch of the aorta. The latter replied that he had never been able to reach so far.

DR. WYETH said that he knew a country practitioner who being obliged to rely on his own resources, dislodged a pin from the œsophagus by feeding the patient with balls of corn-meal mush, containing pellets of fine cotton. The mush was digested, and the cotton remained in the stomach. The patient was then given an emetic, and vomited the cotton, in which was imbedded the pin.

DR. SANDS stated that a physician had once brought to him his child, who had swallowed a nail. At the father's suggestion the boy was placed on a diet of sweet potato, and soon after he had a copious evacuation, containing a mass of potato, in which was found the nail.

NEPHRECTOMY.

DR. JOHN WYETH presented a tumor of the left kidney, which he had removed by the lumbar incision. The patient was a woman, who had suffered from urinary trouble for five years. She had at intervals of a few weeks or months an obscure pain in the left lumbar region, followed by hæmaturia. During the past three years she had been confined to her bed, and last May she was placed under his care through the courtesy of Dr. McWilliams, of this State. Upon examination a tumor of the left kidney was detected, which Dr. Wyeth thought was due to cystic degeneration of the

organ, resulting from calculous pyelitis. The patient was reported to have passed calculi, but none had ever been seen by her medical attendants.

Dr. Janeway saw her in consultation, and thought that the tumor was a neoplasm, although he declined to give a positive opinion as to its character. Nephrectomy was performed in May. The usual lumbar incision was made, and, as there was a space of only three inches between the last rib and the crest of the ilium, a transverse incision was made, the latter extending *to*, but not *through*, the peritoneum, which was folded back toward the median line. There was no hemorrhage of any consequence. The mass was easily separated and the pedicle was secured with an elastic ligature, which was applied entirely by the sense of touch. The vessels were then divided and ligated. The operation lasted two hours, and the patient died of shock fifteen hours later. There was no autopsy. The tumor measured about ten inches in circumference at its least prominent part, and was eight inches in length. A microscopical examination showed that the growth was a medullary carcinoma, which grew from the upper third of the organ.

DR. SANDS asked regarding the condition of the other kidney.

DR. WYETH said that it was inferred that it was healthy, as the patient passed a fair amount of urine (such as could not have come from the organ destroyed by disease), which contained only a trace of albumen and no casts. The sound kidney could be felt during the operation.

DR. BULL suggested that it might have sprung from the suprarenal capsule.

DR. WYETH thought that a careful examination of the specimen would show the intimate relations of the tumor to the kidney itself.

DR. BRIDDON called attention to the fact that the occurrence of hæmaturia would seem to prove that the kidney itself was affected.

DR. WEIR asked if laparotomy would not have been a safer and more rapid procedure.

DR. SANDS agreed with Dr. Weir's criticism. He thought that the anterior section would certainly give more room than the lumbar incision. In the case of a suppurating kidney, however, the objection might be raised that, if the former method were adopted, the pus might escape into the peritoneal cavity.

DR. BRIDDON cited a case in which he had tried to remove a tumor, larger than the one exhibited, through a lumbar incision, and was obliged to abandon the attempt and to perform laparotomy; it was easily removed by the latter method. He suggested that it might not be a bad idea to make a lumbar, in addition to the abdominal, incision, since the former could be utilized for drainage.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, October 12, 1887.

THE PRESIDENT, J. SOLIS-COHEN, M.D., IN THE CHAIR.

DR. CARL SEILER read a paper on

CHRONIC RHINITIS AS AN ETIOLOGICAL FACTOR IN ACNE OF THE FACE.

For a number of years he had made the observation that acne vulgaris and acne rosacea coexisted frequently with chronic rhinitis, and particularly with the atrophic form of nasal catarrh, but it is only lately that he has come to the conclusion that this form of nasal disease is in many cases of acne the exciting cause. This conclusion may seem far-fetched and perhaps unreasonable at first glance, but he hopes to be able to show that there is undoubtedly a close connection between the two affections. For this purpose he gave a short history of a few of the cases which have come under his observation, before entering upon a theoretical discussion of the connection between chronic rhinitis and acne.

Case.—J. H., aged thirty-eight years, suffered from stoppage of the nose for several years, and every morning he blew out large scabs. After this his nose felt clear but dry, and he had lost the sense of smell to a very large degree. For two or three years he had noticed a redness of the external integument of the nose, which had become gradually worse, so that now it had spread from the nose to the cheeks, and pimples had made their appearance. The rest of his face was free from pimples or redness. He was a total abstainer from alcohol. His general health was good.

The anterior nasal chambers were filled with dry scabs of hardened mucus, and beneath the mucous membrane was unusually pale. The lower turbinated bone was barely projecting from the wall of the nose, and the turbinated cavernous tissue apparently absent. This condition caused the anterior chambers to be abnormally large. Irritation with the probe caused but a very slight amount of moisture to gather around the spot touched, while the whole of the mucous membrane was abnormally dry. There was no odor.

The treatment consisted in cleansing the nasal cavities morning and night with an alkaline wash, and in stimulating the mucous membrane with dilute nitrate of silver in powder, a small quantity of which was blown into the nostrils two or three times a week. In order to keep up the stimulation a tampon of cotton was introduced into the anterior nasal chambers and placed against the side of the nose, in place of the atrophied inferior turbinated bone, which tampon was renewed by the patient after the cleansing morning and night. As an application to the skin a lotion was prescribed consisting of alcohol and precipitated sulphur, to be applied every night with a tuft of cotton, and to be washed off in the morning with soap and water.

Under this treatment the acne gradually diminished, and the mucous membrane of the nose became again bathed with secretion, until after a little over three months the redness had entirely disappeared, and the cotton tampons could be dispensed with, because the lower turbinated bones, or at least the cavernous tissue, began again to project into the lumen of the anterior nasal chambers. The patient was seen three years later, unfortunately without having an opportunity of examining his nose, but he said that there had been no return of the acne, and that his nose troubled him but little, and then only when he neglected to use the alkaline wash; the sense of smell had also returned to a large degree, but was not as acute as he might wish.

The short notes of this and two other cases suffice to show that there is a connection between atrophic rhinitis and acne of the face. Although a large number of such cases could be cited to demonstrate still further this

point, it would be waste of time to do so, as they are all, more or less, repetitions of each other.

According to the statements of different authors on skin diseases, acne occurs with equal frequency in both sexes, and usually makes its appearance at the time of puberty, and is frequent until the age of thirty. As predisposing causes are mentioned, gastric disturbances, either lack of or excess of sexual connection, onanism, insomnia, and intemperance, but no mention is made of atrophic rhinitis as a predisposing or existing cause. That the sexual organs have a great influence upon the production of the disease cannot be doubted, for many cases are cited in which acne showed itself only during pregnancy, or at the menstrual period, in women; and it disappears with the cessation of the practice of self-abuse in boys and men; also, the fact that it is most frequent at puberty, would point in that direction. Some authors lay so much stress upon this that they direct their treatment altogether to the sexual organs, by passing a bougie into the male urethra, and prescribing vaginal douches and medication, having no faith in local applications to the skin of the face.

Two factors must act in conjunction with each other to produce acne, one as an obstruction to the efferent channel of the sebaceous glands by the introduction of dirt into it, and the drying of the secretion behind it, producing the so-called comedones, and also a diminution in the activity of the gland itself, which causes an alteration in the consistence and quantity of the secretion, which thus is not able to remove the foreign body in the mouth of the duct by pressure from behind, as undoubtedly occurs in the healthy skin. Thus the retention and accumulation of the secretion causes by pressure a localized inflammation, which is finally relieved by the formation and evacuation of pus. In acne rosacea, the rarer form of the disease, we find no formation of pustules, but simply a general, more or less, diffused inflammation, which is probably due also to a perverted action of the sebaceous glands, but does not lead to a retention of the secretion.

Dr. Seiler had not been able to find an opinion as to the direct cause of the glandular irritation, whether it is altogether local, and caused by obstruction of the duct in the formation of comedones, or whether it is due to reflex nervous irritation, or finally is produced by a more or less general disturbance of the capillary circulation in the skin of the face.

The first of these propositions may be at once set down as insufficient to explain the pathological condition, for comedones are frequent in almost every face, without being necessarily accompanied by acne. The other two propositions may be considered together, for we cannot have inflammation without disturbance of the circulation, and no disturbance of the circulation without nerve influence.

The above cited predisposing causes clearly indicate that an irritation of the nervous system must exist somewhere, be it in the mucous membrane of the stomach, or in the sexual apparatus; which, by reflex, acts upon the easily influenced capillary circulation of the skin of the face and neck, and thus, by causing a change in the capillaries around the sebaceous glands causes a perverted action of these glands if it is kept up for any length of time, or if no relief from blood-pressure is afforded. It is his belief that the cavernous tissue covering the turbinated bones provides such a relief, and that this is one of the functions of the erectile tissues of the body. This belief is strengthened by the fact that under mental excitement, which causes blushing of the face, the cavernous tissue in the nose swells up, while, on the contrary, under any emotion which causes paling of the face, the erectile tissue of the turbinated bones becomes paler, and diminishes markedly in bulk, facts well known to every laryngologist. Let this cavernous tissue be absent, or greatly diminished, as in the case in atrophic rhinitis, and very little or no relief is afforded for the excessive blood-pressure in the capillary circulation in the skin of the face, and the result will be acne if any of the predisposing causes be present. In the cases above cited, and in many others under his observation, the acne disappeared *pari passu* with the reformation of the cavernous tissue, and thus these would seem to be of some importance as clinical proofs of this theory.

Dr. Seiler was fully aware that a single line of cases observed by one observer, are by no means a sufficient guarantee for the acceptance of a theory, and it will require many more cases observed by many observers, to prove or disprove it. At the same time he cannot but think that atrophic rhinitis may be one of the etiological factors of acne.

CORRESPONDENCE.

GLEDITSCHINE—STENOCARPINE.

To the Editor of THE MEDICAL NEWS,

SIR: The fact, seemingly well proven by the experience of Drs. Seward, Claiborne, Knapp, Jackson, Mitchell, and others, that the newly discovered alkaloid, gleditschine, is largely like cocaine in its power as a local anæsthetic, has prompted me to determine whether it has a value akin to the coca alkaloid, as a stimulant in the treatment of opium habitués, and I am now experimenting in this direction, using a two per cent. solution exclusively by subcutaneous injection.

That cocaine, hypodermatically, is a valuable aid in treating the opiate neurosis, is beyond question, in my opinion, though it is not a specific, and should never be given for this purpose by the patient himself, be he physician or layman.

Should gleditschine have a similar value, it may be found free from the ensnaring danger of cocaine, though assuming the fact of its stimulant power, this freedom from risk will not be likely, and we shall note, probably not far in the future, baneful effects from its abuse, and gleditschine inebriety be added to the list of toxic neuroses.

It has been stated by Dr. Seward, that "he has observed antidotal effects to gleditschine from morphia," and W. H. Mitchell asserts "it is a direct antagonist of morphine and opium, ten drops of the two per cent. solution neutralizing one grain of morphine or six of opium." Experiments on rabbits, now being made by myself, will, it is to be hoped, sustain these claims.

J. B. MATTISON.

BROOKLYN, October 15, 1887.

NEWS ITEMS.

An International Congress of Ophthalmology in 1888.—The Ophthalmological Society, at its recent meeting at Heidelberg, determined to hold an international congress of ophthalmologists next year, with Professor Becker at the head. The attendance at the Society's recent meeting was over 100.

Pasteur's Work in Italy.—Since July 1st 1010 cattle and sheep have been inoculated against anthrax in Italy. The Director of the Veterinary College at Naples has applied for material to inoculate, in addition, 1000 sheep. The results are good.

The Gynecological and Obstetrical Society of Baltimore at a meeting held October 11th, elected the following officers for the ensuing year:

President.—Dr. H. P. C. Wilson.

Vice-Presidents.—Dr. F. E. Chatard, Jr., Dr. John Morris.

Secretary.—Dr. Charles O'Donovan, Jr.

Treasurer.—Dr. Robert T. Wilson.

The Tent Service in the Boston City Hospital.—The last annual Report of the Boston City Hospital states that the tent service in connection with the hospital, which affords fifty-six beds, was in active use, and of the utmost advantage, especially for the most serious surgical cases, during the summer months. Its maintenance is comparatively inexpensive, and experience has amply demonstrated the advantages of treatment under these conditions; moreover, opportunity is thus afforded of vacating and renovating in turn the permanent wards.

Since the publication of this report, we understand the tent service has been further extended, so that medical patients share in some degree in its benefits.—*Boston Medical and Surgical Journal*, October 13, 1887.

A Hospital Damaged by the Elevated Railway.—Dr. C. F. Taylor, has, after three trials, won a verdict of $12,000 against an elevated railway for damages to his private hospital in New York.

Counterfeiting the Labels of Merck & Co., of Darmstadt.—The *New York Medical Journal* of October 15, 1887, states that action has been begun against a firm of New York druggists, for counterfeiting the labels of this well-known German firm.

Emmet's "Gynecology" has been favorably reviewed and well received by the French, who commend especially the carefulness and conscientiousness of his work.

The Discussion Regarding Cholera in the Vienna Congress of Hygiene.—As was anticipated, the International Congress of Hygiene at Vienna last week, offered an opportunity for a duel of words between the leaders of sanitation who differ so widely concerning the best means of keeping cholera out of a given territory. The members of the Congress included many members of the last International Quarantine Commission which met at Rome, and at which there were distinctly formed a quarantine and an anti-quarantine party. Prof. Gruber, of Vienna, described his experience with cholera in Austro-Hungary in 1885 and 1886, and said that the intercourse between human beings provided the greatest opportunity for the spread of cholera, but its spread depended largely upon the season and weather. Prof. Gruber expressed himself as being a firm believer in Koch's bacillus theory and a strong adherent of the quarantine system. Two Japanese delegates then stated that cholera was always introduced into Japan by English or French ships coming from China. When Max Von Pettenkofer, of Munich, of the anti-quarantine school, and Dr. Proust, of Paris, his able opponent, joined in the debate, the climax of the discussion was reached. Pettenkofer upheld the English idea of sanitary preparation to prevent the disease from getting a foothold, and claimed, that while he did not deny the discovery of the bacillus by Koch, that its existence alone could not explain all the phases of the disease as seen in India and elsewhere. Dr. Proust advocated isolation, detention, and disinfection, and the Congress adopted by a large majority, five resolutions moved by him setting forth the views of the quarantine party.—*Sanitary News*, October 8, 1887.

Dr. John H. Rauch on Quarantine Defences.—The efficient President of the Illinois State Board of Health is quoted as follows on this subject by the *Sanitary News* of October 8, 1887:

"Sooner or later the national government will be compelled not only to assume supervision of exterior quarantines, but to provide for a permanent system of coöperation with State and local governments in the administration of international sanitation; in order, on the one hand, to prevent the introduction of exotic epidemic diseases, and, on the other, to prevent their spread from State to State along the great intranational highways of travel and commerce. This is a national duty. It is one that the national government only can adequately discharge, and its expense is, equitably, one which should be defrayed from the national treasury." Also, "Congress should give the President the power to issue a proclamation, upon the recommendation of the national health authority, forbidding immigration into the United States from infected districts of other countries, and it should provide some method of international sanitary coöperation between this country and the dominion of Canada, whose interests are substantially the same as ours in these matters, and whose contiguity makes coöperation of vital importance."

The Need of Caution in Contagious Diseases.—The following instance of direct contagion from the corpse of a diphtheritic patient should prove an instructive reminder of the dangers attending such diseases:

Information just received at the Michigan State Board of Health office, illustrates the immense importance of extreme care in dealing with contagious diseases. A young man whose parents live in Brighton, died in Detroit a few weeks ago, after a week's sickness. The attending physician called the disease at various times, "putrid sore throat," "gangrenous sore throat," and "ulcerative tonsillitis." He died of failure of the heart, a common mode of death in diphtheria. The remains

were sent to Brighton, and on the casket was a certificate that he died of "heart-clot." As the boy was well known in Brighton, it was proposed that the high school go in a body to his funeral, but the principal of the school, and the health officer of the village, suspecting that all was not right, vigorously objected to any children attending the funeral. About August 1st, the lady with whom the boy lived in Detroit, visited the boy's parents in Brighton, bringing his clothing that had been left with her. In ten days after her arrival, two children in the family were taken with a malignant form of diphtheria, one dying August 23d, and the other, when last heard from, being in great danger.

From the statement of the case there can be little question that the boy died in Detroit of diphtheria. The father says that if his children in Brighton have diphtheria, then his boy in Detroit had diphtheria, because, he says, "it is the same thing." The members of the family in Detroit have since had sore throats.—*Medical Age*, September 19, 1887.

GENERAL GREELEY'S EXPERIENCE IN THE USE OF ALCOHOL DURING ARCTIC EXPLORATION.—In the *Forum* for August, General Greeley relates his experiences as follows:

"The subject of alcohol was frequently and generally discussed during the winter at Cape Sabine, and all, without exception, concurred in the opinion that spirits should be taken after a day's labor was over, and not before or during exhausting work, nor while suffering from exposure that was to be continued. . . . Later, when the party had been slowly starving for many months, and when the supply of food was so diminished as to necessitate a greater reduction of rations, the pure alcohol on hand was issued as food, being diluted by about three times its weight of water. Each man received daily, perhaps a quarter of an ounce of alcohol, the effect of which was most beneficial. The general impression, with which I most heartily agreed, was that the alcohol supplemented food, and had a decided alimentary value. There could be no question of its beneficial effects as a mental stimulus to every member of the party, under our unfortunate condition at Sabine."

PHYSICAL DETERIORATION FROM OVERCROWDING AT SCHOOL.—At the recent Congress of Naturalists and Physicians at Wiesbaden, PREYER reported, as the result of his investigations, that over sixty per cent. of scholars entering practical life from school were physically unprepared for work and poorly developed. Of the first year scholars only one-third were in good condition; one-fourth were short-sighted. One-fourth of all the scholars were injured in process of education, in physical health or development. Short-sightedness increased in frequency and degree from the lower to the highest grades.

THE HYGIENE OF TO-DAY.—ROCHARD'S speech at the recent Vienna Congress of Hygiene, characterized the hygiene of the present as taking the laboratory for its domain. It must demonstrate to the public that the efforts of workers in scientific hygiene are not limited to commissions, volumes of transactions, and conferences, but that, acting upon positive knowledge, the scientific hygienist will "combat the indifference of governments, popular ignorance, and administrative failure."

THE LAST DISTURBANCE CAUSED BY PRANZINI.—The Paris Faculty of Medicine has been exercised by a rumor that two officials had received gifts of card-cases, made from Pranzini's integument. The offenders were at once sought, and the desecration of the corpse of the murderer was indignantly repudiated by the medical men who had to do with it. On investigation, it was found that a servant in the amphitheatre of the Faculty had been formerly servant to an officer. Wishing to make a gift to his former master, he had taken a piece of Pranzini's integument to a manufacturer, stating that it was sheepskin, and had manufactured two very handsome card-cases. On exonerating the medical men engaged in the examination of the body, an apology was rendered, and the matter was dropped.

SILVER ABSORPTION IN PLATE WORKERS.—It is not generally known that the skin of workmen who have to manipulate silver is liable to become impregnated with metal. Observations made on 800 silver workers in Berlin have shown that all of them had the characteristic patches of coloration. These patches are round or oval in shape, varying in size from a millet-seed to a broad bean. As a rule they are not raised; they are anæsthetic, and occur principally on the dorsum of the left hand. Only workers in silver are thus affected, and not those who manipulate gold or copper. The absorption of the metal seems to have no effect on the general health. Microscopical examination shows that the patches are caused by the deposit of metallic silver in the tissues, and they are soluble in nitric acid and cyanide of potassium. It was noticed that the men effected were invariably those who had some ulceration or abrasion of the hands through which the metal was absorbed. The nature and shape of the metallic deposit warrants the supposition that the metal enters in a soluble form, and is then precipitated. Curiously enough, three workmen, who were being treated for syphilis with mercury, developed a number of fresh stains in a comparatively short space of time.—*British Medical Journal*, August 6, 1887.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY, FROM OCTOBER 11 TO OCTOBER 17, 1887.

ALEXANDER, CHARLES T., *Lieutenant-Colonel and Surgeon.*—Relieved from duty as attending surgeon and examiner of recruits at St. Louis, Missouri, and ordered for duty at Fort Meade, Dakota.—*S. O. 235, A. G. O.*, October 8, 1887.

CUNNINGHAM, T. A., *Captain and Assistant Surgeon.*—Died, October 12, 1887, at Fort Lewis, Colorado.

APPOINTMENT.

JARVIS, NATHAN S.—To be Assistant Surgeon, United States Army, with the rank of First Lieutenant, October 14, 1887.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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